

REF-712

Food

and Agriculture

THE FAO EUROPEAN BULLETIN



EUROPEAN REGIONAL OFFICE OF
THE FOOD & AGRICULTURE ORGANI-
ZATION OF THE UNITED NATIONS
VILLA BORGHESE - ROME

**No. 2 - APRIL-JUNE
1950**

THIRD YEAR

PUBLISHED IN ENGLISH AND FRENCH BY THE INFORMATION SERVICE OF FAO ROME

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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Bank: American Express Co.

FAO BROADCASTS OVER THE ROME RADIO EVERY OTHER WEDNESDAY ON TWO WAVE-LENGTHS

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ENGLISH AND ITALIAN.. 09.15-10.38

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FOR FAR EAST:

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TIME GIVEN IN CENTRAL EUROPEAN MEAN TIME (GMT + 1 HOUR)

FOOD AND AGRICULTURE

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QUARTERLY PUBLICATION
OF THE FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

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ADVISORY SERVICE IN DANISH AGRICULTURE

by **A. P. JACOBSEN**

Chairman of the Danish National Committee of FAO

This brief summary of the advisory and consultative activity in Danish agriculture is divided into the following sections: (1) Number of advisers (2) Appointment of advisers (3) The distribution of advisers in the different branches of agriculture (4) Activity of the advisers (5) Advisory and consultative work performed by researchers and teachers (6) Payment of advisers (7) The advantages and disadvantages of the Danish system.

1. *Number of advisers.*

The development of advisory activity in Danish agriculture may to some extent be illustrated by the following statement showing the total number of advisers from 1870 to 1950:

1870	5	1920	207
1880	12	1930	326
1890	31	1939	356
1900	67	1950	601
1910	119		

For the proper understanding of these figures it should be borne in mind that Denmark's agricultural area comprises 3,150,000 ha. with 208,000 holdings. Of these about 106,000 holdings from 0.55 to 10 ha. may be designated smallholdings, while 97,000 holdings of from 10 to 60 ha. may be termed medium-sized farms. Further, there are 4,800 large farms, and estates with more than 60 ha. of agricultural land, and of these 1,007 have more than 120 ha.

2. *Appointment of advisers*

The initiative for the appointment of agricultural advisers was taken in the sixties and seventies of last century by the Royal Agricul-

tural Society and a start was made with advisers and a few instructors in dairying which in that period was assuming a more important and rational form. This Society worked mainly with money supplied by the Government, and in 1887 this branch of the Society's activity was taken over by the Government.

Apart from dairying the Danish advisory service in agriculture started around 1890. At that time the Government appointed 2 advisers on cattle-breeding, 1 on horse-breeding and 2 for crops in addition to 4 on dairying. These advisers, who were termed Government advisers, were at the disposal of the Ministry of Agriculture, but were also at the Service of the agricultural organizations and the farmers in general. They performed extensive and useful work by starting various new measures for both animal husbandry and crop-growing, and frequently delivered lectures at meetings arranged by the different agricultural societies. They were men who had made their mark and attained a good standing among the farmers before their appointment, and they also proved their worth by the excellent way in which they filled these positions.

The farmers' recognition of the valuable work of these Government advisers and the great interest in obtaining information about possibilities for technical progress in agriculture which arose at that time resulted in the agricultural organizations, and this meant in those days mainly the agricultural societies ('Landboforeninger') desiring to appoint their own advisers. The Government realized the value of this movement and contributions were made by the Government to the societies towards the salaries and other expenses for their advisers, although the Government did not in any way interfere in their appointment, nor in their work. It may be added that the or-

ganizations themselves left the advisers a very free hand in their work. As a rule the organizations appointed a committee for each particular branch of agriculture, for example a committee on animal husbandry to which the adviser on cattle-breeding was attached, a committee for crop husbandry etc.

Gradually as an ever larger number of advisers was appointed under the organizations and they were able to carry on and extend the activity started by the Government advisers, the organizations and their advisers exercised an increasing influence on technical work in agriculture. The number of Government advisers was not increased, and on expiry of term of office of the first appointed Government advisers, around 1915-1920, several of these posts were abolished. In the meantime the local organizations had formed provincial federations with their own advisers who, to some extent, took over the tasks of the former Government advisers. Sometimes, however, a Government adviser was appointed when new tasks became very urgent and the particular organization was not strong enough financially to engage its own adviser.

From 1890-1910 it was mainly the agricultural societies who employed advisers. After 1910 the establishment of smallholders' societies ('Husmandsforeninger') gained headway, and they engaged their own advisers in due course.

On 1 January 1950, the advisers, apart from 86 advisers on domestic economy, were employed as follows:

The Government.	11
Local agricultural societies	258
Provincial federations of agricultural societies.	32
Local smallholders' societies	69
Provincial smallholders' federations	21
Local agricultural and smallholders' societies jointly.	26
Other local societies.	10
Other provincial associations	46
National associations.	42
<hr/> TOTAL	515

Of the 11 Government advisers 4 are Agricultural Attachés in the United Kingdom, Russia, United States and Germany. Three other Government advisers deal with dairying, 1 with horse-breeding, 1 with poultry-breeding and 1 is working at the Faroe Islands.

In order to estimate the number of advisers who are engaged by the different organizations it may be added that there are 139 agricultural societies in Denmark with about 140,000 members and 1348 local smallholders' societies with about 114,500 members and 4 provincial federations for each of these organizations. The provincial federations of agricultural societies and smallholders' societies are combined in a national federation, but these do not have their own advisers. The national federations which have appointed advisers are independent organizations for some particular branch of agriculture, for example, breeding of a particular kind of livestock.

The membership of the agricultural societies varies greatly and the latter are not divided into definite administrative areas. The border line between two agricultural societies is often rather blurred, as personal and traffic conditions frequently have an important influence. The smallholders' societies, on the other hand, are organized according to small administrative areas, as, for example, parishes, local districts and counties. As these societies are small it will be seen that as a rule, several societies join in the employment of one or more advisers. The smallholders' societies are often in close collaboration with the agricultural societies in technical matters. The bigger agricultural societies have, as a rule, at least 2 advisers, 1 on crop cultivation and 1 on animal husbandry, sometimes 2 or 3 societies have an adviser in common, and this is frequently the case for advisers in very special branches of agriculture, for example, soil improvement or farm buildings. It will be understood from this that the advisory service in Denmark was started on a voluntary basis and that it is highly influenced by local conditions. Often the whole organization and its activity bear the stamp of casualness but advisers on crops and advisers on various bran-

ches of animal husbandry are available to every Danish farmer. Some advisers deal with all branches of agriculture but most of them have, as already mentioned, a more or less restricted field of operation.

The 86 advisers on domestic economy are employed by the agricultural and smallholders' societies or by special housewives associations.

3. The distribution of advisers in the different branches of agriculture.

The first advisers to be appointed were mainly engaged in the dairy industry, later on chiefly advisers on animal husbandry were appointed. Of the total number of advisers — 31 in 1890 — 14 were engaged in animal husbandry. At that time the results of feeding experiments were already available, but the advisers were mainly interested in the various branches of animal breeding, particularly cattle breeding. Towards 1900 the farmers' interest in the progress of crop cultivation was awakened due mainly to the activity of two very able Government advisers, and the numerous and valuable results which were gradually achieved through the work of the Government Crop Experiment Stations. The number of advisers rose from 4 in 1900 to 38 in 1910 and to 102 in 1950.

Between 1910 and 1920 the number of advisers on accountancy rose from nil to 28. At that time an increased interest in accountancy arose which to some extent was due to a new taxation system. Many organizations set up accountancy committees and advisers were appointed, who in most cases were acting mainly as accountants. In the 10 year period after 1920 there was a rather sudden and considerable influx of advisers on domestic economy. Here again it is evident how increased interest in progress in a new field resulted in the appointment of advisers. The organizations appointed committees for domestic economy. The committees procured advisers and their activity was soon recognized so that they obtained Government grants. The development of the advisory activity in new branches was not so sudden in the thirties, yet many advisers on horticulture were appointed, and

it is worthy of note that special advisers were appointed in new special fields as advisers on the training of young people and on agricultural machinery. This development was continued in the forties. The total number was heavily increased and advisers were appointed in more special domains such as farm building, the control of pests in grain stocks, etc., breeding of fur-bearing animals, rabbit-breeding and apiculture.

In 1950 there were 515 agricultural advisers distributed as follows according to the work for which they were engaged: 102 advisers on crops, 88 on accountancy, 77 on animal husbandry, 59 on horticulture, 23 on youth associations, 17 on dairying, 12 on poultry, 9 on farm buildings, 6 on soil improvement, 5 on the use of farm machinery, 5 on grass culture, 4 on the breeding of fur-bearing animals, 4 on pest control and 1 on apiculture. 55 advisers each had two sectors, for example, crops and animal husbandry (13), crops and youth associations (17), crops and accountancy (14), animal husbandry and accountancy (4), and 40 advisers had more than 2 sectors and should therefore be called agricultural advisers in general.

4. Activity of the advisers

Obviously the activity of the advisers must correspond to the branch of agriculture in which they are to operate. The work varies somewhat according to local and individual conditions, and in course of time has undergone some changes.

All advisers, however, must depend on research, experiments and investigations of various kinds and upon practical experience. The basis of advisory work in Denmark is the comprehensive and multifarious research work which during the last 60 or 70 years has been carried on at the Government Crop Experiment Stations and the Government Research institutions for animal husbandry, particularly stockfeeding, and also on the results at the Government Machinery Testing Station and Bureau of Agricultural Economics, which have been in operation for 40 and 30 years respectively. Plant-breeding has been under-

taken at the Government Experiment Stations and by private breeders, but in recent years it is carried out mainly by cooperative and private seed firms, while the considerable progress achieved in the breeding of the different kinds of livestock is mainly due to private initiative and measures introduced by private organizations with Government grants.

In addition research work is carried out at the various institutions of the Royal Veterinary and Agricultural College and extensive testing work is performed by Government institutions, as for example, the Government Seed Testing Station and the Government Feeding-stuff Control.

Research work aimed at obtaining a better knowledge of agricultural questions and devising new methods is being continued to an increasing extent and, together with the results achieved in foreign countries, serves as a basis for the activity of the advisers.

The training and personal qualities of the advisers are of the greatest importance. Practically all Danish advisers have received their theoretical training at the Royal Veterinary and Agricultural College in Copenhagen where they passed the Final Examination and obtained the degree of graduate in agriculture. It is a very important fact that the great majority of these advisers have grown up in agriculture, and that at least 3 years' practice in agricultural work is required to be admitted to the College. Further, it is only in exceptional cases that a graduate in agriculture is appointed adviser immediately after having passed his examination. He will generally have to undergo 2 or 3 years' continued training as assistant at a Government Experiment Station or with an experienced adviser. Altogether the advisers have about 200 assistants.

The advisory work itself is so multifarious and so dependent on time and place and personal qualities that it is difficult to describe it. The object is to make the farmers interested and to give them the latest information and to apply it on their own farms in a way which may be most suited to their personal qualifications and local conditions.

All advisers give lectures, write articles,

undertake demonstrations and sometimes give lantern lectures, show films and give broadcast talks. The advisers on crop-growing undertake numerous so-called local experiments with farmers regarding the effect of fertilizers on yields, the yield of different varieties and strains and many other topical questions. The advisers utilize the results of these experiments together with those of the experiments and examinations undertaken at the Government institutes. The advisers on animal husbandry base their work on the milk recorders' accounts, pedigree tables, progeny tests and the results from the Government feeding experiments, etc. The advisers on machinery give advice according to the Government Machinery Tests, practical experience and other investigations and often assist in the organization of agricultural machinery stations etc. In addition, all advisers assist in arranging agricultural shows, including cattle shows, and demonstration fields and use these opportunities to give instructions and information to the visitors. Field inspection and visits to farms are also made. The explanations on such occasions are easily understandable and are frequently more effective than articles and lectures.

The predominant object of the advisory activity is to help the farmer to obtain a better economic profit, and the adviser must therefore constantly have in mind the cost of and probable income obtainable from the improvements and measures which they recommend. The question is: what extra expense will a recommended measure entail, and what will be the estimated additional profit derived from the introduction of the measure. Local conditions, for example, labour, may be decisive, and it is always the farmer who has to make the final decision — the economic responsibility rests with him.

6. Advisory and consultative work performed by researchers and teachers

Besides the above-mentioned professional advisory work, much information and sound instructions are given to the farmers by scientists and technicians at the 14 Government

Crop Experiment Stations and through the Government's very comprehensive research work on animal husbandry and other branches of agricultural production. The farmers willingly go to these centres to obtain knowledge and experience, and the leading men at the experiment stations are in frequent demand as lecturers. Special reports of experiment results are directly available to the farmers and brief summaries are disseminated in huge numbers among the farmers. The professors at the Royal Veterinary and Agricultural College do some advisory work, and also the principals and teachers at the secondary agricultural schools, of which there are 26 spread over the country.

Sometimes an agricultural teacher has also a small job as adviser, or, as sometimes happens, an adviser gives some instruction at a school during the winter. On the other hand, many advisers give instruction at evening schools and at special schools for young farmers, just as advisers in domestic work give instructions to farmers' daughters at similar courses and schools.

Administratively, advisory activity depends neither on the Agricultural College nor on any of the agricultural schools.

7. *Payment of advisers.*

Apart from the few Government advisers who are paid by the Government, all advisers are appointed by organizations and paid by these.

The Danish agricultural organizations, however, have only comparatively limited means at their disposal. The membership fees are very inadequate; as a rule they only amount to 10 or 20 Kroner annually for a farmer with from 10 to 30 ha. and the average membership fee is only 5 kroner per annum. A very large proportion of the income has to be obtained from other sources, by holding cattle shows and exhibitions, mainly for assistance in supplying their members with seeds, seed potatoes, lime, etc. and, in some cases, also by the sale of chemicals and by contractual work such as spraying and the like; and finally by subsidies from the Government.

The Government's contributions are granted to the organizations for a number of measures, *e.g.*, for awarding prizes for breeding animals, for keeping of pedigree books, local field experiments, demonstration fields, courses, etc. as a rule according to the organization's own expenses, and for the payment of salaries and travelling expenses for the adviser, likewise in a certain proportion to what the organizations themselves contribute. Formerly the Government paid roughly 50 per cent. of the expenses, now the grants are smaller and more restricted, but the Government's expenses for advisory activity still amount to well over 3,000,000 Kroner annually.

The Government grants are paid when the accounts are submitted to the Ministry of Agriculture through a provincial or national federation and have been approved by the Ministry's supervisors.

The annual salaries of the advisers range at present from 8,000 to 15,000 Kroner, but most advisers obtain some extra income from work as contributors to agricultural journals and lecturers and from extra work of various kinds, for example, as controllers under the Government Plant Inspection.

A few advisers have their own farm, and in some cases the organization has a farm which is under the management of the adviser and to a certain extent used for demonstration and experiments.

Owing to the organizations' scarcity of money, frequently much secretarial work devolves on the advisers.

7. *The advantages and disadvantages of the system.*

The same purpose may be achieved by different methods; the system is not the decisive factor. But every system has certain advantages and certain disadvantages.

The advantages of the above described arrangement of the advisory service in Denmark are:

(1) The advisers' thorough theoretical and practical knowledge and the quick dissemination of recent experiment results and experience between researchers and practical far-

mers. For the fulfilment of the task it is of great importance that almost all the advisers right from their early years have been intimately connected with agriculture and therefore find it easy to get into close touch with the farmer.

(2) That the advisers themselves conduct experiments and investigations on the farms. This applies mainly to the advisers in soil science and crop-growing.

(3) Great mobility so that advisory activity may be quickly and comparatively easily extended, re-arranged or restricted according to the requirements for the time being.

(4) A very small administrative machinery with a resultant cheap administration.

(5) The private character of the work, although the Government makes considerable contributions.

As weaknesses or disadvantages in the system may be mentioned:

(1) The irregularly delimited districts of the local societies, as the geographical area of the particular agricultural society is blurred, and as the agricultural societies and the small-holders societies work side by side all over the country in the same branches of agriculture. This last mentioned drawback is partly counterbalanced by good collaboration between the two categories of organizations.

Horticulture is no less irregularly organized, and the above-mentioned organizations have also appointed some advisers on horticulture.

(2) The provincial organization without corresponding national federations. The provincial organization makes good adaptation possible according to the different districts of the country, but involves less uniformity and less possibility of making summaries comprising the whole country. The necessary central bodies are often wanted for the preparation of such summaries. This drawback is remedied to some extent by the fact that the provincial advisers collaborate and in some cases prepare reports comprising the whole country on some investigations on series of experiments which have been carried through on a uniform plan.

(3) The inadequate financial resources of the organizations often compel the advisers to

undertake other work, and in many cases there are not enough funds for assistance and for obtaining the necessary technical equipment.

(4) Too slight contact with many farmers who often take little notice of the advisory service offered. Statistically there is one adviser to every 400 farmers, but as the advisory activity is rather specialized, the number of farmers to each adviser within a particular branch is in reality much larger, and it is therefore impossible for the advisers to get into personal touch with each farmer. It should be remembered, however, that the assistance of the advisers towards progress is in no small way obtained through the 'neighbour' effect, *i.e.*, through the example set by the more advanced farmers. Further, some organizations have started advisory work within specific branches of farming such as milking, milk hygiene and stockfeeding, by calling on each particular farmer, or by means of small courses for limited circles of persons so that practically everybody interested can take part. Courses on milking were started more than 40 years ago.

(5) The advisory activity is in most cases directed, within a definite field, by a committee appointed by the organization concerned. In a very few cases the task is taken over by an individual independent society for a special branch, for example, crop-growing, cattle-breeding and the like. Possibly this latter form is the more efficient.

Advisory activity is looked upon in Denmark as very valuable, and will probably be further extended and developed, but it is impossible to state how beneficial it has been to the country or what its value has been in money, as nobody knows what the agricultural situation would have been without the existence of the advisers. A fair guarantee that the money spent by the Government in advisory work is well spent is afforded by the fact that the farmers themselves bear a considerable part of the expenses in connection with the activity of the advisers. Without advisory activity the Danish agricultural production would certainly not have reached its present level. The advisers have always been well received by the Danish farmers, and they have

always taken a great interest in obtaining information and instructions, besides which they are very willing to make the advisers acquainted with their own experience and points of view. This has given rise to a very useful collaboration which, through the advisers, benefits all Danish farmers.

In organizing advisory activity in agriculture it is very important to consider what kind of advisers are to get into direct contact with the farmers, whether they are to be experts who are specialists in bigger or smaller fields, or whether they are to be experts in agriculture in general who are to advise in all technical fields, and who in many cases must consult and, if deemed necessary, call in specialists.

Wherever advisory activity has been organized recently the latter system seems to be preferred. All-round advisers are appointed to keep in direct contact with farmers within not too big a local district, and they request the advice of specialists whenever they find such a step necessary. This arrangement has obviously been chosen because it is recognized that it would be impossible to provide, and perhaps also unpractical to have, real specialists in the many different branches of agriculture in direct contact with the large number of farmers.

This system is largely used in Denmark in advisory activity concerning plant diseases and pests and their control. Here the advisers on

crop-growing are in direct contact with farmers and give them much advice, at the same time keeping in close contact with the leading specialists for the whole country. A somewhat similar method is adopted for other branches of agriculture, with the difference, however, that almost all the advisers in the local districts have become specialized in a few main branches of agriculture, so that an interested farmer is in regular and direct contact with 2 or 3 advisers and in some cases with 1 or 2 advisers in more specialized fields, as for example, use of machinery and farm buildings.

The local conditions influence the extent to which the specialists can, and should, go direct to the farmers. As the situation stands at present in Denmark it would seem that the farmers will continue to avail themselves to an increasing degree of the service of a larger number and of more specialized advisers.

It is desirable that the specialist should know the economic limitations of the technical improvements in the branch of production concerned, as otherwise they may encourage the farmers to undertake uneconomic investments, but the harmonizing of the different branches of production, which is so decisive for the total economic result of the whole holding, should be left to the farmers who, however can obtain advice from special agricultural economic experts.

FRUIT AND VEGETABLES IN NUTRITION

by Prof.
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glio Nazionale delle Ricerche, Rome

Fruit and vegetables may be looked upon as essential foods because they supply certain indispensable elements (vitamins and mineral salts), they are appetizing, and they regulate the intestinal function.

It is usually objected that fruit and vegetables have a low energy value and low content in rapidly assimilable nutrients.

It should be noted, however that some fruits have a very high caloric value, as can be seen from Table I, and that there are other fruits and vegetables whose caloric value is anything but negligible (Table II).

The figures shown in Tables I and II may be compared with the energy value of a basic component of the diet in countries of central and north Europe, namely potatoes, which have a 100 gram equivalent of 72 calories. It will be seen that there are many fruits and vegetables with an energy value exceeding that of potatoes, namely, walnuts, almonds, hazelnuts, chestnuts, dried figs, persimmons and green peas, while grapes, fresh figs, plums, peaches, apples, pears and apricots are equivalent in value or differ but slightly.

TABLE I

FRUIT	Calories per 100 g. of edible portion	
	*	**
Walnuts, dried	707	610
Almonds	570	610
Hazelnuts	551	—
Walnuts, fresh	495	—
Figs, dried	288	249
Chestnuts, fresh.	198	168

* From 'Tabelle di composizione in principi nutritivi ed in calorie dei più comuni alimenti'. Istituto della Nutrizione del C.N.R., Rome, 1946.

** From 'Food composition tables for international use', FAO, 1949.

The protein content of vegetables and fruit is low, although the protein of leafy products

is of good quality, and its importance in the diet — particularly of low income groups — is increasing.

TABLE II

PRODUCT	Calories per 100 g. of edible portion	
	*	**
Green peas	93	36
Persimmons.	86	58
Peaches	74	41
Grapes	74	62
Potatoes	72	70
Figs, fresh	64	64
Plums	60	60
Pears	50	50
Apples	50	49
Carrots.	46	37
Broccoli	42	26
Mushrooms, fresh.	41	—
Spinach	36	17
Apricots	35	47
Cauliflower	32	13

* From 'Tabelle di composizione in principi nutritivi ed in calorie dei più comuni alimenti' — Istituto della Nutrizione del C.N.R., Rome, 1946.

** From 'Food composition tables for international use', FAO, 1949.

Some products have a low caloric value, for example, onions, bell peppers, celery, but are important for seasoning. When added to foods they make them more appetizing. Garlic and onions contain active principles of considerable pharmacological and consequently physiological value.

Fruits and vegetables, however, perform other important functions: they supply the system with the greater part of the vitamins required to ensure the normal functioning of the physiological activities of the tissues and the cells. Vitamins cannot be elaborated by the human body but have to be obtained from foodstuffs and in sufficient quantity to cover the needs of the body which vary according to age and type of activity.

Nutritionists today are mainly concerned with the qualitative aspects of the diet, where-

as formerly attention was chiefly turned to the question of covering the energy requirements of the human body.

Vitamins, therefore, play a predominant part in man's diet and the body's needs must be fully ensured.

The National Research Council, in 'Recommended dietary allowances', indicates the quantity of vitamins which should supplement the daily diet. Table III reproduces, for brevity, only the maximum and minimum figures for certain physiological conditions.

TABLE III. — *Vitamin intake considered necessary by the National Research Council*

PHYSIOLOGICAL GROUP	Ascorbic acid (vitamin C)	Thiamin (vit. B ₁)	Riboflavin (vit. B ₂)	Vitamin A I. U.
Children under one year . . .	30	0.4	0.6	1,500
Man leading a sedentary life	75	1.2	1.8	5,000
Woman leading a sedentary life . . .	70	1	1.5	5,000
Wet-nurse	150	1.5	3	8,000
Boy	100	1.7	2.5	6,000

Table IV lists the fruits and vegetables which, because of their vitamin content, have a marked protective function.

It is evident that many vegetables and fruits have a high vitamin content. The vitamin requirements of the human system are considerable, even though various causes may limit their absorption and utilization by the tissues.

On the other hand, the extensive use which is now being made, especially for certain age groups, of commercial vitamin preparations shows increasing disadvantages since the taking of specific vitamins or vitamin complexes very frequently brings about an alimentary disequilibrium to which, perhaps, sufficient attention has not always been called.

A greater consumption of vegetables and fruit would cover vitamin requirements without giving rise to possible drawbacks as regards inter-vitamin correlations.

The normal biochemical reactions in the tissues are assured by an adequate amount of mineral salts in the daily diet. Table V gives the content of some fruits and vegetables

TABLE IV. — *Vitamin content of certain fruits and vegetables per 100 g. of edible portion **

PRODUCT	Vitamin C mg.	Thiamin mcg.	Riboflavin mcg.	Vitamin A I. U.
Orange (juice)	50-56	66-96	15-90	50-400
Asparagus	25-50	145-173	170	300-1,000
Broccoli	108-122	80-100	128-259	3,000-9,000
Carrots	5-7	56-101	50-90	3,000-12,000
Cauliflower	69-83	95-153	100-220	35-90
Cabbage, green	20-100	110-170	60	300-500
Cherries	8-10	51	(20)	200-430
Onions	16-20	25-100	20-62	traces
Beans, broad or fava	30-50	150-350	100-250	270-500
Figs, dried	—	80-180	85-125	50-90
Lemons (juice)	45-60	30-90	(+)	traces
Almonds	—	120-300	670	400-580
Apples	4-8	21-46	5-26	40-100
Melons	26-40	30-75	35-75	400-2,400
Potatoes, year-old	10-20	105-133	40-51	20-50
Potatoes, new	—	—	—	—
Peas, green	22-26	348-422	157-203	600-1,300
Pears	3-5	30-90	20-150	10-20
Peaches	6-9	20-70	45-50	1,000-2,000
Tomatoes (juice)	28-31	60-105	41-53	500-1,200
Turnips	26-36	52-78	48-95	10-20
Radishes	12-24	40-100	30-40	30
Spinach	15-60	95-140	200-310	(10,000+)
Plums	4-7	48-200	30-44	350
Grapes	3-5	30-60	9-60	20-80
Persimmons **	—	25	—	—
Chestnuts **	—	200	—	—
Hazelnuts **	—	570	—	—
Walnuts, dried **	—	370	—	—

* The data in Table IV are taken from SHERMAN, H.C., Chemistry of food and nutrition. New York, 1946. They are based on the most complete researches I know of today. This is why I preferred, while fully recognizing the value of the analytical data in use in France (Randoin and his co-workers), in the United Kingdom and in Italy, to draw upon this one source only.

** Analyses carried out at the 'Istituto della Nutrizione del C.N.R.', Rome.

in calcium, phosphorus and iron which are essential to the system.

Table V shows that the calcium content of many vegetables and fruits exceeds the phosphorus content, while others contain the two elements in about equal proportions. Conse-

TABLE V *

PRODUCT	Per 100 g. of edible portion		
	Calcium g.	Phosphorus g.	Iron
Carrots	0.42	0.040	0.006
Broccoli	0.14	0.072	0.0014
Turnips	0.051	0.052	0.0005
Spinach	0.083	0.048	0.0096
Turnip tops	0.101	0.107	0.0003
Cabbage, common, headed	0.429	0.072	0.0004
Lettuce	0.054	0.031	0.0011
Chicory	0.074	0.038	0.0011
Celery	0.061	0.046	0.0007
Radishes	0.037	0.031	0.0010
Endive	0.074	0.038	0.0017
Figs, fresh	0.050	0.035	0.0007
Melons	0.017	0.018	0.0004
Lemons (juice)	0.021	0.012	—

* FROM SHERMAN, H.C., Chemistry of food and nutrition. New York, 1946. See also note * to Table IV.

quently these products are particularly valuable since many diets — and not only Italian — have the drawback of containing more phosphorus than calcium (this is especially the case with cereals), which causes an inversion in the calcium-phosphorus ratio and an alimentary disequilibrium which inevitably has a harmful effect on the system.

Fruit and green vegetables also supply the basal elements required to maintain the alkaline reaction of the blood and the internal organs of the system constant.

These products may also be regarded as regulators of the intestinal function because they induce the feeling of 'satiety' particularly necessary to the worker who frequently cannot supplement his daily ration with a larger quantity of fats, and also because, owing to the fibre content, normal intestinal peristalsis is promoted.

In addition, fruit and vegetables, unlike animal products, are not contra-indicated (except in the case of certain intestinal troubles); on the contrary, they are most useful for some diseases and play a large part in the diet of the obese.

The rising importance of fruit and vegetables in nutrition is confirmed by the manner in which food consumption in the United States has changed within thirty years (1909-39), as Stiebeling shows in the 'Handbook of Nutrition', 1943.

The consumption of beef and pork, estimated together, has dropped 11.793 kg. per caput, representing a reduction of 86 calories per person. (Graph 1).

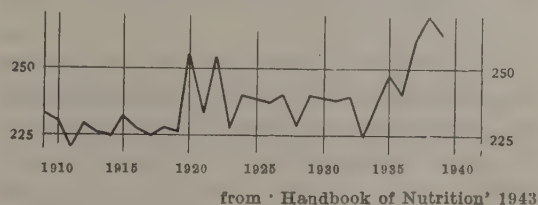
On the other hand, the consumption of citrus fruit has risen about 11 kg. per caput per annum (Graph 2), while from 1930 to

GRAPH 2
Per caput citrus consumption in the United States from 1909 to 1941

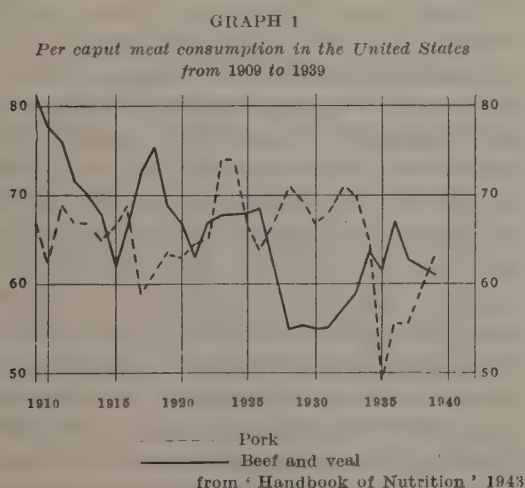


1939 the consumption of fresh vegetables, already high, has increased further by nearly 16 kg. reaching last year the amount of 123 kg. per person. (Graph 3).

GRAPH 3
Per caput consumption of green vegetables in the United States from 1909 to 1939



The food value of vegetables and fruit, therefore, is to be considered from many aspects and consequently, an increase in the consumption of these products is imperative for all peoples: both for those whose diet may contain too much food of animal origin, and for those in whose diet these foods are not adequately represented.



PRESERVATION OF GREEN HERBAGE IN GREAT BRITAIN, SCANDINAVIA AND HOLLAND

Dr **L. E. KIRK**

Chief, Plant Industry Branch, Agriculture Division FAO

At the present time in Great Britain there is a lively interest in the preservation of green herbage both by artificial drying and by ensilage. The excessively high price of grain concentrates makes the cost almost prohibitive, hence the desire to make use of grass cut and preserved at a sufficiently early stage to insure a protein content well in excess of field cured hay.

Artificial drying of green herbage

A few commercial driers were operating in Great Britain in 1937 and there has been a slow but steady expansion of this industry. Most of the produce from these driers is sold as poultry feed on the basis of carotene content, and most of these enterprises have been profitable. Since dried grass can qualify for first grade on a carotene basis and still vary from 10 to 30 percent in protein content the *quality rating of the product is highly artificial*, and the price paid by the consumer is not reflected in the feeding value.

Farm drying of green herbage to produce high quality grass for dairy cows is an entirely different matter and must be judged from an economy standpoint on the cost of drying in relation to the increased feeding value of the hay. Many attempts to establish such an advantage for artificial drying have been unconvincing. A considerable number of communal driers have been installed by the Milk Board. These have operated for only one year, but the reports are not encouraging. Communal driers have the disadvantage that everyone's hay requires attention at the same time. No authority in England or Scotland placed the cost of drying at less than £ 15 per ton.

In Holland, where grass management is

considerably advanced over that in Great Britain, it is maintained that the cost of grass drying can only be justified if grass is managed and fertilized so as to provide a continuous supply of young grass throughout the season, and if the drier equipment is kept in continuous operation from spring until late fall, so as to reduce the overhead costs.

With respect to grass drying as a means of producing and preserving hay for livestock feeding on the farm, little hope is entertained in Great Britain at the present time that this practice will prove profitable under any circumstances.

Silage

In England a campaign is getting under way to promote the making of silage from green grass. Here again the chief consideration is the excessively high cost of concentrates. Another argument for silage is the saving of hay in bad haying weather, but this is of minor consideration as compared to the demand for more and cheaper protein.

Considerable pressure is being brought to bear on the Advisory Services in England by the Department of Agriculture and the Milk Board to step up the campaign for more silage, but the officials responsible for promotional work prefer to exercise caution and not go too fast. They remember too well the campaign for more silage during the war which was a failure and only served to discredit the use of silage and the advice of the men who took part in the campaign. At that time various expedients for containing the silage were recommended, such as woven wire and snow fences. These devices gave indifferent results, but the chief reason for disappointment lay with the farmers themselves who failed,

for one reason or another, to apply the simple but essential methods on which good silage depends.

The present campaign, however, differs from the campaign in that the emphasis is being placed on 'pit' silage. This method is more fool proof but nevertheless requires proper methods. Whether or not the result proves profitable depends not only on the method of making the silage but also on good grass management, mechanization and suitable feeding practices.

As yet there is very little pit silage produced in England and much of Scotland, but in Aberdeenshire it has recently come to be used rather extensively. It is the favorite method of making silage at the Rowett Institute and many of the larger dairy farms make 150 to 300 tons. Upright silos are sometimes discarded for the pit method, the latter having been found easier and cheaper with the mechanical devices now being used. The fact that construction costs for upright cement silos are prohibitive has also tended to favor the pit silo, especially on the bigger dairy farms where very large quantities of good quality winter feed are required. The National Institute of Research in Dairying at Reading has this year made about 200 tons of pit silage and a few of the larger dairy farms in southern England have recently adopted this method of making silage.

Pits are dug with tractor power, the Ferguson tractor and scoop being well adapted for this purpose. Pits should be about 15 feet wide, 2 to 6 feet deep, and as long as necessary. As the grass is brought in and distributed in the pit the tractor is used continuously for packing. No cutting up of the grass is necessary and no molasses or acids are used. When the pit is full it is covered with about 4 to 8 inches of earth, this also with the tractor and scoop. Pits are usually dug into the side of sloping ground, and unless the soil is very porous the bottom of the pit should slope to one end to provide drainage. Mechanisms for lifting the green grass from the swath are still giving trouble. Some farmers use a mechanical loader, which elevates the grass on to carts. These loaders require

to be repaired frequently. The Ferguson tractor can now be equipped with a strong (Patterson) sweep which gathers, lifts and transports the grass to the pit. This sweep is still unsatisfactory in one or two minor respects, but when these defects are corrected the Ferguson tractor and attachments will provide complete equipment for making pit silage.

When to cut the grass for pit silage is a question of considerable importance. Young grass 8 to 10 inches long gives the highest protein content and approaches a good grain concentrate in feeding value. Making silage of this type, however, presents several technical difficulties and also requires molasses or acid because of the proportionally high content of protein to carbohydrate. Quantity can only be obtained if the grass is so managed as to provide several crops; the short grass is difficult to pick up in the field; packing must be carefully controlled, and the silage must be fed in suitable amounts along with ordinary air dried hay or roughage to produce satisfactory results.

For these reasons opinion in England and Scotland was unanimous that a silage of medium quality is preferable. This is obtained if the grass is cut at a good length but still in vigorous growth. Such silage provides enough protein for a maintenance ration for dairy cows and one or two gallons of milk per day. For higher production some concentrate is required. Cut at this stage there are a minimum of technical difficulties in handling, packing and feeding, and no molasses or acids are required.

With inexperienced farmers there is always a tendency to cut the grass too late. In other words, the growth of grass always tends to outrun the farmers' plans for making silage. Discussing this point, Mr Creighton of the Rowett Institute remarked that farmers should always start cutting grass well in advance of the optimum stage for silage. He also expressed the opinion that grass silage is preferable to silage made from an oats and tares mixture. Good silage of the latter type, however, has been made at the Dairy Research Institute at Reading.

There is considerable interest at the present time in Aberdeenshire as to the relative economy of roots as compared with grass silage for dairy cows. Some farmers are thinking of abandoning the former for the latter. Roots somewhat less reliable than grass as a crop and they require more labor. The concensus at the moment seems to be that such a shift in cropping practice should be made, if at all, gradually.

Pit silage in other countries

In Holland there is much more interest in artificially dried grass than in pit silage, but costs of drying are high and can only be justified by making a high protein product comparable to grain concentrate, and by operating the drier continuously throughout the growing season.

Pit silage was said to be little used in Finland or Sweden, the upright silos being preferred. At the same time great quantities of hay was observed in the region of Stockholm to Uppsala, the hay being made invariably in the field on stakes strung with wire.

Pit silos are used extensively in Norway, mainly by very small farmers and in areas of high rainfall. The work is done mostly by hand. As soon as a farmer can afford an upright silo he usually discards the pit method.

Climatic conditions in Sweden, Finland and parts of Norway are more favorable for hay making than in Scotland or west England, which probably accounts in part for the large amount of hay made in these areas. Another reason may be the fact that cattle require to be fed for a longer time during the winter months than is the case in Great Britain. Although the relatively dry climate of east and southeast England also favors hay-making, the use of pit silage is expected to increase in these areas.

Relative merits of molasses vs. acid (A.I.V.) silage

Expert opinion seems to be somewhat divided as to the relative value of molasses and A.I.V. silage. In Finland, where the A.I.V. process was developed, silage made with weak acid solution is strongly favored. Sweden

and Finland seem to prefer the A.I.V. silage, but some difficulty is now being experienced in securing adequate supplies of acid. Results of experiments in England designed to compare the two methods of making silage are inconclusive, while the more exacting tests conducted in Holland show little if any overall advantage for either molasses silage or A.I.V. silage. In general any advantage there may be for the latter appears to be outweighed by the inconvenience of using acids, but the choice of method is probably determined mainly by the relative availability and comparative cost of molasses as compared with sulphuric and hydrochloric acid.

Conclusions

Pit silage can be recommended as a relatively cheap and effective method of preserving green grass, green oats or oats and tares, kale, and other forms of green herbage. For all of these except grass the herbage must be put through a cutting box and spread as the pit is being filled. The addition of molasses is desirable but in the case of grass good silage can be made without it.

Making silage by the pit method is likely to be unattractive to most farmers if the work must be done by hand. The same is true in all areas where the silage is liable to freeze. On the other hand, pit silage will probably be used most extensively on dairy farms in areas where climatic conditions favor grass as the major crop. Such areas have a high rainfall and unfavorable conditions for making hay. Due to the advantages of mechanization and the heavy demand of milch cows for protein rich feeds, pit silage is likely to be used extensively on the larger dairy farms.

While pit silage can be recommended with confidence, the making of silage by this method can result in serious loss or an inferior product, unless certain instructions are carefully observed. All efforts to promote the use of pit silage should be associated with educational and follow up programs. Farmers, like everyone else, learn by experience, and practical demonstration is particularly helpful with farmers who lack that experience.

How whale oil is processed and marketed in the United Kingdom

by **J. C. GLOVER**

Deputy Director, Oils and Fats Division, Britain's Ministry of Food *

Whale oil, together with the more important oils and fats, and oil bearing seeds and nuts, is controlled by the Government on importation into the United Kingdom. All the crude whale oil is bought by the Ministry of Food mainly from United Kingdom and South African whaling companies, together with a certain quantity produced by Norwegian companies. Of the total quantity of oil imported, 98 per cent. is used in the manufacture of margarine and cooking fat. The remaining two per cent. is sold by the Food Ministry in its crude state to sulphonators and filterers.

To deal first with these two minor, but important uses: The process of sulphonating consists of treating the crude oil in suitable tanks at low temperature with concentrated sulphuric acid: later sufficient water is added to remove the greater part of the uncombined sulphuric acid, and finally the oil is partially neutralized until a point is reached at which the product is completely miscible with cold water. The resulting sulphonated whale oil is soluble either in water or in mineral oils.

It is used very extensively in the engineering trade where lubrication is required, particularly in those cases where constant friction would cause excessive heat. By virtue of its chemical properties sulphonated whale oil does not readily evaporate; it can also stand up to very high temperature without losing its oiliness. Mineral oils used in similar conditions would very quickly dry up and so cease to lubricate. Then again, sulphonated whale oil, together with mineral oil and water in solution, is made up as a cutting oil which is flowed on to the cutting tool and the metal being worked so keeping them cool and to size by restricting frictional heat expansions.

In the case of filterers, as the name implies, their treatment of whale oil is to filter the more solid portions of the oil, often known as stearine, from the more liquid parts, leaving a clear oil that will remain bright and unclouded and oily at very low temperatures. Thus it will be seen that filtered whale oil is used under conditions completely different from those of sulphonated oils. In both cases the crude oil leaves the direct control of the Ministry of Food at the time when it is sold to the individual sulphonators or filterers.

Turning now to the really large consumption of whale oil, that of the manufacture of margarine and cooking fat, Britain's Ministry of Food retains ownership right through to the production and disposal of the finished products. So great is the need and so useful the oil as an ingredient in edible products, that virtually none can be spared for soap making.

Whale oil is carried from the Antarctic in bulk tankers, and on arrival in the United Kingdom it is pumped into land tanks for storage. The main part of the catch arrives in April and May, and so sufficient storage must be provided to house what virtually amounts to a year's supply since only small quantities of whale oil are imported into Britain from the summer production in tropical waters.

The crude oil, still the property of the Ministry of Food is processed by the hydrogenators: the first treatment is to remove the free fatty acids. From this process there is a residual by-product (about five per cent. of the original weight) known as whale oil acid oil, a low grade material too poor in quality

* Mr GLOVER since 1910 has made a study of the whaling industry.

to be used in soapmaking: it is sold by the Food Ministry to fat splitters, who convert it into fatty acids for which there is a wide use in many technical industries. The neutral oil is then transferred to processing vessels, where in the presence of a catalyst, hydrogen is introduced and the process of hydrogenation begins. The amount of hydrogen absorbed by the oil determines the degree of hardness of the resultant fat: this can be, and is delicately and rigidly controlled, so that the resultant product can, at will, vary from a cream-like fat to material that is quite brittle.

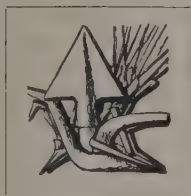
The final process is that of deodorizing, which in effect is boiling the hardened oil in a vacuum at relatively low temperatures: in maintaining this vacuum the volatile matter, that is, the matter which gives any oil or fat its distinctive colour and taste, is sucked away. The fat is then pure white in colour, bland in taste, and completely neutral (ready to be passed on to the margarine and cooking fat manufacturer).

The refined deodorized hydrogenated whale

oil, (still the Food Ministry's property) then passes to the margarine and cooking fat manufacturers where it is carefully blended with other oils and ingredients to produce the margarine and compound cooking fat. In the case of margarine for domestic use this is fortified with Vitamins A and D. The manufacturers pack the vitaminized margarine for the domestic consumer in paper packages of eight ounces suitable for sale to the public and unvitaminized margarine in cartons for sale to the many and varied trade users, such as biscuit, confectionery manufacturers, and others. It is at this stage that the whale oil in the form of margarine finally passes from the Food Ministry's ownership, being sold to the wholesalers and on through the retailers to the consuming public at controlled prices.

It will be seen, therefore, that from the primary producer to the final consumer a large proportion of the whale oil entering the United Kingdom remains the property of the Ministry of Food during the many processes through which it passes.

ITEMS OF INFORMATION



AGRICULTURE

Agricultural Genetics Meeting

A Meeting of Agricultural Genetics was held at Rieti, near Rome, from 30 May - 3 June, 1950. The meeting was organized by the Italian Society of Genetics and Eugenics and the Rieti Chamber of Commerce, Industry and Agriculture. Professor Carlo Jucci, of the Genetics Department of the Institute of Zoology of the University of Pavia, was Scientific Organizer of the programme. About 200 Italian delegates attended, together with representatives from Sweden, France, Switzerland, Spain, Portugal, Yugoslavia, the United Kingdom, U.S.A. and Israel. The opening ceremony was attended by the Under-Secretary for Industry and Commerce, the Mayor, the Bishop, the President of the Rieti Chamber of Commerce, Industry and Agriculture, and many other distinguished national, provincial and municipal officials. Short messages of good wishes were delivered by Dr P.S. Hudson on behalf of the Washington Headquarters of FAO, by guest-speakers on behalf of their respective countries and national genetical societies, and by other speakers on behalf of various Italian universities and societies.

Dr R.A. Silow, representing the European Regional Office of FAO, was unanimously elected Chairman of the Congress. In his opening address he referred to the long history and the high reputation of the near-by 'Nazareno Strampelli' Station for Cereal Improvement, which was the second organized institution for the breeding of wheat to be established in Europe. He outlined the purpose of the conference, pointing out the necessity for maintenance of the highest standard in all aspects of agricultural technology if production is again to be brought up to pre-war level. He referred to the pre-war production of wheat in Italy, which was 8 million tons each year. This was achieved not only through the application of good farm husbandry methods, but also by the use of seed-stocks of the highest

quality. Varieties such as Mentana, Ardito and Villa Glori, developed at the Rieti Station, had contributed much to this high level of production. Last year Italy had produced only $6\frac{1}{2}$ - 7 million tons of wheat, and it was the function of this meeting to determine what part breeding could play in increased production. Leading up to the international aspects of the meeting, examples of FAO activities in the field of crop improvement were mentioned, including the European Hybrid Maize Programme, the catalogues of breeding and genetic stocks of crop plants, and the world list of plant breeders. Attention was drawn also to the necessity for considering effective arrangements for the multiplication and distribution of seed of improved strains, and for variety classification and seed certification. The magnitude of the contribution which plant breeding could make to increased crop production was illustrated by figures from Sweden, and the low cost of those contributions, both to the State and to the farmer, was stressed. Finally, on behalf of the Director-General and the European Regional Representative, the best wishes of FAO for a successful meeting were extended, and reference was made to the forthcoming transference of FAO Headquarters to Rome and the long period of harmonious and fruitful cooperation with Italian agriculturists which was anticipated.

The first paper was given by Dr P.S. Hudson on 'Genetics and Agriculture in International Organization', in which the FAO World Catalogue of Genetic Stocks was described. This evoked lively interest and several participants, both Italian and foreign, asked to be supplied with further details.

The second contribution was a paper, with slides, by Dr A. Gustafsson, Sweden on 'Induced Mutations and the Viability Problem'. Here some interesting data were given concerning certain mutants obtained by X-ray irradiation of barley. Many of these were of good viability, and some were fully fertile, so that irradiation clearly has potentialities as a tool in plant-breeding.

Dr A. Câmara, Portugal, delivered an address on 'Possible Contributions to Plant Improvement', in which an outline was given of the plant breeding work in progress in Portugal and the methods employed. These include the artificial induction of

mutations and polyploids, and the study of the cytological interrelationships of the species in wheat and other plants, and the study of the significance of polysomics.

The second day was devoted to discussion of the improvement of cereals, particularly wheat. Dr Å. Åkerman, Sweden, outlined the history, organization and achievements of the Swedish Seed Association at Svalöv. It is estimated that plant-breeding and improved agricultural methods together have led to an increase of almost 50 % in the yield of wheat in Sweden, and increases of slightly more modest order in other crops. Attention was early devoted to investigation of the potentialities of special techniques such as the artificial induction of mutations and polyploidy. The latter technique appears to be most successful in crops which are grown for their vegetative parts, since fertility is usually depressed. Useful polyploid strains of alsike, red clover and winter rye are already available, and barley, rye, wheat, timothy, mustard, turnip, mangolds and sugar beet show promise. The importance was stressed, in all methods of breeding, of undertaking selection work on a sufficiently intensive scale, and of adequate facilities for field tests over a wide range of conditions. In connection with the urgent problem of breeding a more winter-hardy wheat, resistance to winter damage by *Fusarium*, *Typhula* and other pathogens is of importance; laboratory methods of testing cold tolerance were described, and the importance of preliminary hardening was stressed. Old land races were strongly winter-hardy but deficient in all other respects. Yield of winter wheat has been increased 70 % over the past 50 to 60 years, and half of this increment is due to breeding. Baking quality was not at first adequate, but as Sweden became self-supporting in wheat, interest was taken in this feature, and Sweden can now obtain fully satisfactory baking flour by the blending of domestic winter and spring wheats. The contribution of the plant breeders to yield increase in the spring wheats is estimated at a little over 20 %.

In oats, of which only spring varieties are grown in Sweden, the important observation has been made that yield is not necessarily closely correlated with maturity class. Yield increments of 10-20 % are attributed to the breeder.

A short reference was made to oil plants. Cultivation of these was resumed in 1940 as a contribution to the supply of fats in the national diet. They now occupy an important place in the economy of the country, and their cultivation is being maintained, 170,000 hectares having been grown last year. The important oil crops are rape, white mustard, and linseed. In addition to straight-forward selection for winter hardiness, work is proceeding with polyploids and with interspecific crosses, the latter especially in the genus *Brassica*. Tetraploid types of all species groups of this genus have been

obtained, but their vigor is in no case greater than that of their parental types, and often lower. The high-chromosome number species have been artificially synthesized, and these now offer a possibility of introducing winter-hardiness into rape. Progress has been made in improving the fertility of synthetic species through selection. Finally Dr Åkerman gave a brief description of the provisions for testing, multiplying and distributing improved seed, pointing out that the breeding work was kept quite independent of commercial interests, whilst it was recognized that a commercial concern could give better attention to the distribution of seed than was possible in a purely scientific institution. His address, together with that of Professor Gustafsson, gave an instructive and inspiring picture of the contribution which a balanced plant-breeding programme has made to the development of agriculture in Sweden.

Dr O. Gasparini discussed problems in connection with seed production in Italy, and Dr V. Boceta described some interesting results obtained in Spain with maize hybrids produced by crossing plants selected from consanguineous lines, which method produces notable improvements in less time than that required for the selection of inbreds.

Dr A. Dionigi described the work of the Nazareno Strampelli Cereal Research Station at Rieti, and the new direction it has taken since the death of the famous breeder N. Strampelli, former director of the station. The method now employed consists of making large numbers of crosses (2000 or so have been made this year) and subjecting the hybrid material to preliminary testing under artificial conditions of environment — *e. g.*, in cold chambers at 4° C for varying periods — before testing them in the field.

The third day was devoted to discussion of problems in horticulture.

Dr G. W. Adriance, U.S.A., spoke on 'Fruit Breeding Problems in Texas', mentioning especially the production of peaches with a low degree of cold requirement and capable of giving fruit in Texas, where the winters are often so mild that the common peach varieties cannot be grown. Mild-winter tolerance was derived from the Chinese Honey Peach, which is not of the best quality and was therefore crossed with commercial types. Mention was also made of work with raspberries, figs and grapefruit. In connection with the latter he drew attention to the use of nucellar seedlings to screen out virus diseases, and as a means of rejuvenation of the variety.

Dr Chanan Oppenheimer, Israel, spoke on fruit breeding problems in Israel. He referred to the difficulty of growing apples, which suffer damage to blossom through lack of shading during the very hot days of early spring at a time when the trees are still leafless. Pollen-sterility and differences in time of flowering make hybridization with a small-fruited locally-adapted type difficult, but crosses with European types have been obtained, and these in later

generations show transgressive segregation for time of leafing. Dr Gustaffson recommended X-radiation of European types in an attempt to induce bud-mutations which might well be expected to include precocious-leafing types.

Dr A. Morettini presented a useful outline of the fruit breeding work that has been done in Italy. Special mention was made of the achievements of Pirovano, who as the result of half a century's labour has produced many excellent varieties of table grapes, some of them possessing special characters such as a rose flavour or seedlessness, and others possessing new combinations of desirable characters such as high yield, earliness and large fruits. Valuable varieties of pears and peaches produced by Pirovano were also mentioned. The author then proceeded to describe his own work at Florence in producing improved varieties of peach, plum, pear, and apple. Attention has now been turned also to the Japanese persimmon. Among the activities of other workers, special mention was made of the discovery at Acireale in Sicily of lemon varieties resistant to the die-back disease (Mal Secco). He stated that the genetic aspects of fruit breeding have received little attention in Italy, and that much requires to be done, especially on such characters as keeping quality and transportability in relation to export requirements. He made a special plea for further support of such work, including the establishment of a Fruit Genetics Research Institute.

Dr M. Marinucci discussed the problems of olive breeding in Italy, pointing out the need for a fundamental attack from the genetic angle even though this should take centuries to complete. The existing varieties, of which there are many, all have some defect or other, and improvement in such features as drought and cold resistance would lead to great increases in production. Examination of further material from the centre of origin was strongly recommended. Studies on floral biology are important in the search for self-compatible varieties. Particular mention was made of work being carried out under the author's direction at Perugia where studies of respiration and glycolysis in different combinations of stock and scion have shown which combinations are the most favourable. Differences have been observed even between reciprocal combinations, expressing the different capacities of the respective varieties to utilize raw materials.

Dr G. Dalmasso gave an outline of the history of vine breeding from the pre-phylloxera period to the present day. Interesting points that emerged were that while French and German breeders had been almost completely preoccupied with attempts to achieve the hitherto unattainable goal of the direct producer hybrid, in Italy the two Pirovanos, father and son, had gone ahead with improving the quality of the available material within the European grape species, and so attained the excellent series of varieties now available for grafting on to resistant stocks.

Similar activities were carried on at the Viticulture Station at Conegliano under the direction of the author. He now considers however, that it may well be profitable at this stage to re-examine the German method of approach, experience having shown that certain resistance genes do exist in the European vines, and by using large numbers of hybrids in advanced generations it is possible that the ideal direct producer may yet be achieved. He further pointed out that with the present knowledge of the laws of plant distribution it is still possible that further collecting expeditions in America might reveal the existence of species capable of giving resistant hybrids of high quality.

The fourth day was devoted to grassland problems. The first contribution was by Dr F. Marschall, Switzerland, on 'Plant-sociological considerations regarding Alpine Pastures', in which it was shown that Alpine plant species exist in many different and quite definite races, and that the classification of the associations is much more complex than has been supposed. A thorough study of these associations from the plant-sociological point of view will undoubtedly help in selecting genetically suitable forms.

Dr T. J. Jenkin, speaking on 'Genetic Problems in the Breeding of Forage Grasses', described the work of the Welsh Plant Breeding Station in evolving strains of pasture grasses of greatly improved persistency and quality. By blending appropriate basic strains carefully selected for known characteristics, mixtures suitable for almost all sets of growing conditions in the British Isles can be obtained. Attention is being devoted to the production of special types for silage and grass-drying.

Interesting views were expressed concerning the evolution of the British strains of *Lolium perenne* from the annual *L. rigidum* of the Mediterranean. Though it has changed in very many genes and gene complexes it is still not so completely adapted as to survive out of cultivation. On the other hand *Festuca*, which has evolved by polyploidy, has produced species capable of surviving under ecological conditions other than those to which the parental species are adapted. This should be borne in mind in judging artificial polyploids, which may be inferior in the parental area but yet prove superior in some area outside the parents' range.

Dr G. Haussman, in a paper, on 'Problems of Forage Plant Selection in Relation to the Fertility Potentialities of the Soil', laid special stress on the capacity of different plants to influence the soil structure, owing largely to differences in the type of root system they produce. Selection for the types most effective in this respect will contribute materially towards improving the quality of the swards and raising the production capacity of the land.

Dr M. Mendizábal, Spain, described the work of the agricultural experiment station for arid zones at Almeria, the main problems of which are to find

plants capable of growing under conditions where the mean annual rainfall is only 200 mm.

Dr F. d'Amato, Pisa, gave an account of experiments in which gammexane had been shown to have certain advantages over colchicine as a polyploidizing agent, especially in its low toxicity; it is effective over a very wide range of material. Dr T. Castelli, of Perugia, after giving a review of Winge's work on the genetics of the yeast fungi, reported some observations of his own in which a close correlation between spore form and fermentation capacities was demonstrated.

The final session on the fifth day was held at the Pontifical Academy of Sciences in the Vatican City.

Dr R. Esteruelas, Spain, reported on the work of the Aula Agricultural Experiment Station near Zaragoza, where the activities, all directed towards improving the local crops, are divided into plant breeding, cytology, ecology, phytopathology and physiology.

Dr. R. Téllez, Spain, referred to difficulties in applying the present systems of classification of wheat species and varieties to a large collection of agricultural varieties, and proposed that a meeting of interested parties should be organized at the next International Genetics Congress in Rome. The meeting unanimously agreed with this proposal.

One of the evening sessions was devoted to a visit to the projected Apennine Research Centre, to be operated jointly by the University of Pavia and the National Research Council. This Research Centre is a development of the work of Professor Carlo Jucci in this locality during the past fifteen summers. It is situated in isolated country and with a magnificent outlook at an elevation of 1730 metres on Monte Terminillo, a few miles from Rieti. The laboratories are nearing completion, and will provide for general biological studies in the fields of taxonomy, cytology, histology, phytopathology and physiology. Particular emphasis will be given to studies in botanical evolution and adaptation on much the same lines as those followed by Jens Clausen and his co-workers at Palo Alto in California. Professor Jucci hopes also that this will become an international study centre.

Drought and erosion control in southern Russia

(Excerpt from an article by Boris Tkachenko published in 'L'Agronomie tropicale', Ministry of Overseas, France)

The steppe region and wooded steppes in southern Russia cover 120 million hectares, stretching from Moldavia and Volhynia to the Ural and Kazakhstan. Three quarters of this region are formed of fertile chernozems. Before the first world war these step-

pes produced 250 million quintals of wheat. At present, despite the periodical drought which causes much damage this region is still the most important centre of the U.S.S.R. and produces:

	in quintals	% of total production of U.S.S.R.
Cereals	850,000,000	65
Sugarbeets	215,000,000	90
Sunflower	30,000,000	80
Raw cotton	3,700,000	11
Castor beans	1,800,000	95
Rice	1,100,000	8
Groundnuts	400,000	80

and also minor crops. There are 78,900 kolkhozy (total number in U.S.S.R. 242,000), 2,000 sovkhozy (Government farms), 3,555 machinery and tractor stations.

The relentless progressive desiccation of these steppes is the result of the 'systematic suppression of the natural vegetation, the destruction of the crumb structure of the surface layers and the considerable increase in erosion' (Dokučaiev — 1846-1903). In addition the extension of industrial crops favours the spread of erosion. (For instance, in 1861 sugarbeet covered 100,000 ha. and in 1913, 648,000 ha.).

In the south-west, thawing snow and the torrential summer rains each year leach 100,000 ha. of fertile chernozem land into mediocre soil sometimes rendering it useless for farming. Gully erosion causes even heavier damage. According to official statistics the total gully area in the U.S.S.R. in 1934 amounted to 4,489,000 ha., area which increases each year by 2 per cent. corresponding to an annual loss in arable land of 90,000 ha. Wind erosion has damaged 195,570,000 ha. and this area increases each year by about 146,000 ha. This type of erosion takes the form of dust storms ('black storm'), winter wind erosion, 'blowouts' or localized churning up of the soil.

A few isolated measures were taken to combat drought but, prior to the revolution, the credit goes to Dokučaiev for being the first to devise a rational plan for checking the effects of periodical drought. This plan, having proved effective for over half a century, is utilized in the present protection program which the U.S.S.R. government has drawn up for the next fifteen years. The Dokučaiev plan included (1) regulating the flow of the principal and secondary watercourses (2) gully reparation (3) watershed management (4) rational management of farm land (5) farming technique permitting the soil to store up more water and the plant to utilize it under better conditions.

The amplitude of this plan would have necessitated an enormous budget allocation, and consequently the suggested measures could never be put fully into effect.

In 1921, after the war and the revolution a very severe drought hit the population of the south-east regions with tragic results, and in 1922 immediate measures for increasing production and checking soil degradation were decreed. In 1924 drought control was indicated in the First Agricultural Economic Recovery Plan as 'the principal agricultural task of the country'.

Since, however, there were not sufficient funds to carry out the program in full the efficacy of the previous suggested measures was first checked. For this purpose, the pre-war agricultural experiment centres were established and an extensive network of new research stations throughout the steppes organized. The results of these researches made it possible to draw up a program called the 'Dokučaiev-Kostychev-Williams Plan'. This plan stresses the planting of shelterbelts, the introduction of 'travopol' (rotation of temporary artificial meadows; from 'trava' grass and 'pole' field) in the crop rotation, rational tillage methods, effective use of fertilizers, pond management.

In 1931, a re-afforestation project to cover over 4 million hectares was planned. Between 1933 and 1937 all the collective and State farms were required to introduce the 'travopol' rotation and to plant protective forest belts. On the eve of the second world war shelterbelts in the south-east covered over 270,000 ha.; ponds and dams numbered about 38,000; temporary artificial meadows based on the 'travopol' system covered 10 million ha. The war wiped out these results almost entirely and the situation was made worse by the severe drought of 1946. Nonetheless, three years later practically all the south-east zone had regained the pre-war production level.

The 1946 drought was in a way the final test of the efficacy of the Plan. In all the farms employing the new farming technique under shelter of the forest belts, the harvests were maintained practically at the ten-year average level; yields were two to five times lower and sometimes completely destroyed in the kolkhozy which had not yet adopted the new methods.

In view of these results, the Cabinet of the U.S.S.R. on 23 October 1948 legally enforced this program which has to be carried out completely between 1950 and 1965. This 15-year Plan provides for the planting of 6,148,900 ha. of forest, 44,228 dams and ponds, the introduction into 80,000 kolkhozy of the 'travopol' farming system with the subsequent extension in grassland area to 14 or 15 million hectares.

Soviet technicians report the agrological role of afforestation resulting from the reciprocal action of forests and climate, not only on a regional scale but also over wide areas.

Experience has shown the beneficial effect of the forest on the hydrological regime of the steppe. Bassov (1948) says that 'the shelterbelts (1) reduce the wasteful runoff of surface water and transform

it into a subterranean stream; (2) augment the water reserves in the soil resulting in the raising of the underground water-level; (3) increase the continuous feeding of the watercourses by the underground water reserves; (4) check erosion and consequently prevent the silting up of water-courses'.

These shelterbelts act as windbreaks and therefore check wind erosion. It has also been found that in the fields they protect there is an increase in soil fertility and higher yields which are particularly in danger during the drought periods.

The establishment of these tree stands in the southwest, however, is very difficult and fifty years of trial and error have resulted in a planting technique which is based mainly on the species to be planted, taking into account their qualities, trunk length, foliage spread, resistance to local oecological conditions, life period, rapid growth, easy reproduction by seed or shoots, attractive shelter for useful birds.

Of the 6,148,000 ha. to be afforested according to program, the State will undertake 8 tree stands or 'large State shelterbelts' totalling a length of 5,330 km. and covering an area of 117,900 ha. The network of shelterbelts to be established in the kolkhozy and sovkhozy will cover 5,709,000 ha. For this purpose the kolkhozy will be granted technical and financial assistance from the government.

In order to carry out this program 60 large nurseries have been set up by the Ministry of Forest Economy; 120 by the Ministry of Agriculture, 110 by the sovkhozy and about ten thousand small inter-kolkhoz nurseries by the Ministry of Agriculture. There are 570 stations equipped with bulldozers, scrapers, graders, 22,000 heavy caterpillar tractors, 5,000 mechanical planters.

The application of rational cultivation methods contributes not only towards increasing yields but also towards checking effectively drought and erosion. In effect, experience has shown that temporary artificial meadows permit a rapid reconstruction of the crumb structure of the chernozems and ensure its maintenance during the 'travopol' rotation (9 to 12 years). It is expected that this system will be applied throughout the steppe region by 1955.

As already mentioned water management is included in the 15-year plan. After the drought of 1946 the Soviet Government planned an irrigation network by utilizing the runoff of the 575,000 ha. to be improved in the chernozem zone, between 1947 and 1953. By 1948 over 40,000 dams and ponds had been established in the steppes and wooded steppes. The hydraulic network, in addition to irrigation requirements, will be extensively used for generating electric power. The total power of the rural hydro-electric stations will soon be increased to 1 million KW.

Pisciculture will also be expanded.

Soviet scientific circles, including J.A. Charov, consider that the application of this plan, afforestation, the establishment of artificial meadows, subsoil

water, will improve local climatic conditions with a consequent effect on the general climate of this territory. In order to study this effect, several score special meteorological stations have been set up.

Grassland Conference

The French Government joined with OEEC to invite the representatives of OEEC countries to a Grassland Conference in Paris from 3-4 May 1950, with the purpose of focusing attention on the importance of grassland improvement problems, especially those concerning extension work. The meeting was attended by 90-100 grassland specialists, coming from nearly all the OEEC participating countries, and was opened by Mr G. Valley, French Minister of Agriculture. The Vice-Chairmen were Mr O'Donnell, of Ireland, Chairman of OEEC's Food and Agriculture Committee and Dr W. Davies, of the United Kingdom, Chairman of OEEC's Grassland Working Party. After adoption of the agenda, different papers were read, relating especially to extension service matters in the different countries, and to some technical problems (such as seed production, fertilization, the use of lucerne, alfalfa, silage and forms of silos).

Excursions were arranged for the Conference, which showed grassland management and improvement methods in Normandy, Champagne and Lorraine.

News about the International Wheat Agreement

International Wheat Agreement has been ratified by 37 of the original 41 signatory countries within the time limit set for its formal acceptance. Uruguay on the side of exporting, and China, Colombia and Liberia on the side of importing countries did not ratify the agreement. Other nations which did not sign the original agreement may become party to it upon application to and acceptance by the International Wheat Council. Under this provision Haiti acceded to it last November and the application of Costa Rica was approved by the Council in January 1950. In March 1950 the Council voted to admit Germany with a quantity of 1,800,000 metric tons per year, but action on Japan's application was deferred until the June meeting.

Agricultural and forestry documentation centre in Kosice

The Czechoslovak Agricultural and Forestry Centre has been opened recently in Kosice, Eastern Slovakia. Its task will be to make available in digest form the entire home and some of the most important foreign agricultural literature. For this purpose it will publish a monthly bulletin 'Review of Agricultural and Forestry Literature',



ANIMAL PRODUCTION

Inauguration of the Headquarters of the European Association of Animal Production

The European Association of Animal Production was established in Paris last November. Its new Headquarters in Rome were formally opened on 22 June 1950, in the presence of the leading animal husbandry men of Europe. Under-Secretary of State for Agriculture Colombo made the initiating speech in the name of the Italian Ministry of Agriculture. Mr Boerma, FAO European Regional Representative, outlined FAO's interest in the work of the new Association. Professor Leroy of France, its Chairman, and Dr Engeler of Switzerland, Vice-Chairman, made statements on the Association's future work and programmes. On the occasion of this inauguration, Mr Boerma received in the FAO European Regional Office the animal husbandry specialists who came to Rome to attend the ceremony, and gave a brief account of FAO's work. He stressed the importance FAO attaches to its relationships with non-governmental international organizations and outlined the policy followed in this respect.

International centre for the study of foot and mouth disease

An international centre to study, classify and maintain strains of the virus which causes foot and mouth disease was proposed by veterinarians and other representatives from 32 countries at a meeting in Paris May 13-20. The meeting was sponsored jointly by the Office International des Epizooties and FAO.

The international centre envisaged would be a centre of reference and for storing and maintaining the various strains of the virus which causes this extremely contagious disease of cattle, sheep, goats, swine and other cloven-hoofed animals. After an attack of the disease an animal becomes immune, but only to the particular strain which caused the attack. Similarly, vaccines will protect an animal only against the particular strain of the disease from which the vaccine is manufactured. Thus veterinarians have generally agreed that one of the first problems in controlling the disease is to identify these virus strains. Since some countries in which the disease is prevalent do not now have adequate facilities for such work, the international centre was proposed. Funds to maintain the centre should come from an international source, the delegates agreed.

Dr I. A. Galloway of the United Kingdom announced to the meeting that his Government is prepared to offer the facilities of the Research Institute of the British Foot and Mouth Disease Research Committee at Pirbright, if international funds are available to expand existing facilities and take care of increased maintenance costs. The meeting recommended that this offer be accepted, and that international funds be sought. The recommendations from the meeting will be reported to the FAO Conference at its next session.

Delegates were optimistic on the control of foot and mouth disease, noting in an official declaration that 'with existing means and through the implementation of all appropriate and proved measures, it is possible :

- (a) to protect countries free from infection,
- (b) to control and eradicate sporadic outbreaks..., and
- (c) to reduce losses, and even eradicate the disease in countries where it exists in an endemic state'.

A regional approach in developing a concerted attack on this disease was urged. The meeting asked that FAO in cooperation with OIE call regional meetings to set up regional committees, particularly in enzootic areas (where many animals are affected at the same time) and where such regional committees do not already exist.

The meeting expressed satisfaction with offers of various governments to provide training facilities for specialists of other countries, and urged that governments make their veterinary experts available to other governments on request to advise on foot and mouth disease research or vaccine production.

The importance of a coordinated system for reporting the course of the disease in various countries and outbreaks was discussed. The President of the Office International des Epizooties, Sir Daniel Cabot, said that the Office would be very willing to receive reports of outbreaks and the disease position and to circulate the information immediately to all countries.

While vaccines in use now are effective, the meeting emphasized that research must be continued in order to improve their effectiveness and methods of application. It recommended that every effort be made in an attempt to make vaccines available at a lower cost, and that international funds should be found to help countries not in a position to procure vaccines.

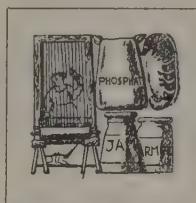
Tropic and sub-tropic livestock breeding problems

Livestock breeding specialists from Europe, the Near East, Africa, Asia and the Far East met in Lucknow, India from February 13 to 24. The meeting had been called by FAO in order to study

breeding problems in the tropics and sub-tropics.

The objective of the meeting was to bring together scientists doing research and animal breeding work to review and coordinate present information and to make plans so that activities and experience in particular areas may supplement those in others. Each government had been invited to prepare a summary report of the animal breeding work done or underway in its area. Milk and meat production, draft power, and the results of introducing foreign types and breeds were among the topics discussed with regard to cattle, water buffaloes, goats and sheep.

There is no doubt that livestock production on a world scale could be increased very materially if modern breeding methods were generally applied. The increase would probably be even greater than the average in areas such as the tropics and sub-tropics, whose producers now live in relative ignorance of modern breeding methods. Better-bred animals would not only produce more but would make much more efficient use of feed, which is often in scarce supply. The problem is generally not one of introducing new breeds into a country but one of improving local animals which are already adapted to the climate and other local conditions. In many cases, the necessary knowledge is lacking for carrying out such breeding work.



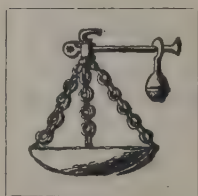
AGRICULTURAL INDUSTRIES

Establishment of new industries in rural Ireland areas

In order to counter a drift of population from rural districts to the larger towns and cities and to reduce the rate of emigration to other countries, it has been the policy of successive Governments to have manufacturing industries established in small country towns and rural areas. Though this policy of decentralization of industry has not been entirely successful, it has resulted in a considerable number of new factories being diverted from the larger centres of population to country districts. In general, the initiative in the setting up of new industries has been left to private enterprise, and, while Government policy has encouraged industrial promoters to locate their projects throughout the country, no compulsion has been applied; in many cases economic reasons would, of course, operate against the selection of a rural location.

Several of the industries set up in the post-war period have been located in the smaller towns. These include the manufacture of plaster boards, hand tools and implements, agricultural implements, bolts and nuts, baths and cisterns, concrete tiles, lead and zinc ores, trailer caravans, leather dressing machinery, grass meal, milk crumb for chocolate, mineral waters, jams, fish-canning, seaweed processing, rayon fabrics, worsted cloths, woollen fabrics, corsets and elastics, sheepskin leathers, slippers, sandals, shoes and envelopes. Other industrial projects based on rural locations are in contemplation. In the main, manufacturing enterprises of this kind consist of small units of production, giving somewhat limited employment. They help, however, to establish a local balance between agricultural and industrial pursuits.

The Industrial Development Authority was formally constituted in May, 1949, and its members, four in number, were appointed by the Government. Shortly afterwards the newly created body began to function. The Industrial Development Authority is an autonomous body responsible to the Minister for Industry and Commerce, and through the Minister to the Government. The Authority will examine and will pay special attention to the question of establishing suitable industries in small towns and rural areas.



ECONOMICS AND MARKETS

Norwegian investments since the War

(From the Norwegian Government's annual Economic Survey — NEC)

Annexed to the Norwegian Budget for the financial year 1945-46 was a plan for the rehabilitation of plant and equipment in essential sectors of the national economy, with a view to restoring productive capacity with a minimum delay. The plan provided for a total net investment, over a five-year period, of 6,000 - 8,000 million Kroner (value as in 1945).

The situation at the beginning of 1950 shows that in all important fields this plan has been more than fulfilled. We cite from among them those instances relating to Agriculture. Livestock herds are still inferior in numbers to those of pre-war, but the general level of quality is better and yields are higher than pre-war.

The total area under cultivation is smaller than before the war as a result of the prevailing tendency to abandon work on poor soil with low yields in favour of more intensive farming of the remaining area. Much capital has been invested in farm buildings since the war and large quantities of building materials have been allocated to silos and manure tanks, etc.

The situation in agricultural machinery and equipment has substantially improved since the war. In 1949, Norway had about 8,000 tractors as compared with 2,800 in 1938. Much progress has also been made in the mechanization of forestry operations and in road-engineering.

The fishing fleet is larger than pre-war. The whaling fleet has been fully restored and the factory ships provided with equipment permitting a better utilization of the whale carcass than before. The number of whale catchers exceeds the pre-war figure.

The nitrogen industry's maximum production is now 150,000 tons per year, as compared with a little less than 90,000 tons in 1948. The new superphosphates plant of the Det Norske Zin Company has been completed.

Investment in the herring oil factories has expanded the capacity of this section of the oils and fats industry by about 26,000 hectolitres per 24 hours.

A new laboratory, in the course of construction, is to be dedicated to research work designed to achieve a better utilization of materials deriving from the whale.

In the wood-refining industries, investments have been made in order to reach a rationalization of production.

The principal new development in the textile industry is the erection of a textile printing plant.

Satisfactory progress was also made in the other fields of work covered by the plan.

Trade Agreements

CZECHOSLOVAKIA (see also FRANCE, U.S.S.R.)

Czechoslovakia and Brazil have drawn up a trade and payment agreement. An agreement negotiated in 1946 had elapsed and trade between the two countries was to the disadvantage of Brazil. By the terms of the new agreement Czechoslovakia is pledged to purchase goods from Brazil to the amount of 15 million dollars, and to redeem its debt which, on 31 December 1949, amounted to 106,212,871 cruzeiros. Brazilian exports will chiefly consist of salted and tanned hides (over 40 per cent. of Czechoslovak purchases), cotton, coffee (600,000 dollars), cacao, wool, meat by-products, vegetal seed and oils, including castor beans and babassu, Carnauba wax, hardwood, mica, tobacco.

Czechoslovak exports will include machinery, particularly power-lathes and farm implements, tannin, brewery and distillery equipment, newsprint, chemicals and pharmaceutical products, glassware and china, vehicles, chassis and engines.

On 27 March 1950 a trade agreement was signed in Prague by Czechoslovakia and Bulgaria to regulate the trade between the two countries during 1950. The volume of goods traded by each party has been increased.

Bulgaria will supply oilseeds, maize, tobacco, hides, rice, fruits, ores, pyrites. Czechoslovakia will mainly furnish mechanical industrial products, coke, chemicals, glassware, stationery.

A trade agreement to the value of 20 million dollars was signed by Czechoslovakia and Pakistan last January. Czechoslovakia will export tractors, textile goods, paper, matches, chemicals. Pakistan will supply jute, cotton, dried fruits, pharmaceutical raw materials.

DENMARK (see also FRANCE)

A trade agreement was signed on 24 February 1950 by Denmark and Hungary for a period of one year beginning 1 March 1950. It provides for a trade volume of about 11 million Danish crowns in each direction. Danish exports include seeds, machinery, penicillin. Hungary will supply feathers and down, feedingstuffs, fruit products, linen and hemp cloth, electric globes.

In a memorandum appended to the agreement, the Hungarian Government is pledged to grant export licences for 1000 tons of wheat bran and 1000 tons of sunflower oilcake from the 1949 season to be supplied under the item: non-specified feedingstuffs, and undertakes to examine the possibility of furnishing the same quantity from the 1950 crop.

On 6 April 1950 a new protocol was signed by Denmark and Switzerland for a period of one year beginning 1 April 1950. Danish exports to Switzerland will amount to 97 million crowns while Swiss exports will total about 60 million crowns. The surplus Danish exports will settle various financial obligations including a clearing debt to Switzerland.

FRANCE

An agreement in force from 1 May 1950 to 30 April 1951 was concluded between France and Czechoslovakia. Lists of the commodities under quota which require import and export licences have been drawn up for the two countries.

The French commodities will mainly be natural phosphates (60,000 tons), pepper, vanilla and other spices — in thousand francs — (70,000), essential oils and aromatics (70,000), palm kernels and karité (60,000), linen and cotton yarn (55,000), cotton fabric (28,000), woollen yarn and fabric (65,000), silk and rayon fabric (90,000), raw rabbit skins (140,000), different seeds (20,000), sponges (18,000), beverage wines and wines for distilling (15,000 hl.), dried fruits, olive oil, vegetable fibre, cognac and rum, fish-meal, oak and walnut logs (500 m³ each), okoumé and other colonial woods (5,000 t.), cork, goat's hair, tanning extract, chemicals, machinery.

Czechoslovakian commodities comprise sugar for North Africa (25,000 t.), seed potatoes (3,000 t.), seed grain (4,600 t.), wood pulp, woodenware, malt, barley, live game, medicinal plants, tree and vegetable seed, beer (10,500 hl.), essential oils, rootstocks, farm tractors (145), tractor-hauled farm machines (8,500,000 fr.), other farm machines, textile machinery, sawmill machines, motor-cycles, spare parts, glassware.

A supplementary commodity list to the trade agreement between France and Denmark of 31 October 1949 was drawn up by the Joint Committee which met in Copenhagen from 8 to 13 May 1950.

Danish exports to France, French overseas territories and French North Africa, include butter (500 tons), cheeses (500 t.), sweetened condensed milk (3,000,000 Danish crowns), seed potatoes (10,000 tons), beer (1,000,000 cr.), milking machines, soybean lecithin, agar agar, dried eggs for industrial use, brewer's barley (2,000 t.), sugarbeet seed. Certain commodities have been released from quota: all horses except draught horses, dressed poultry, fresh or preserved eggs in the shell (hatching eggs still under quota); vegetables: asparagus, cucumbers, gherkins, artichokes (other vegetables still under quota), fodder sugarbeet seed, forage crop seed (still under quota), vegetable and flower seed (no quota), seed pulses (under quota), colourings for dairy products (no quota), lactic ferments (under quota), machinery for food industries (bread-making machinery still under quota).

French exports to Denmark include barley from French North Africa (3,000 tons; 200,000 Danish crowns), textile machines (2,000,000 crowns), vegetable and flower seed, sawn or hewn pine-wood (no quota), planed or grooved wood (under quota), machinery.

Supplementary lists to the trade agreement of 1 November 1949 between France and Portugal were drawn up by the Joint Franco-Portuguese Committee which met in Paris from 26 April to 7 May 1950.

French exports include — additional quotas in million francs — essential oils and aromatics (20), hand tools and farm implements (30), rabbit and angora hair (4), spices and condiments (3), agricultural machinery (20), cheeses also Roquefort (2), jute cord (20), cotton thread (15).

Portuguese commodities: Port wine and Madeira (10,000,000 escudos), beverage wines for French overseas territories (20,000 hl.), dried fruits (500 tons), pitprops for Morocco (5,000 t.), greasy and washed wool (75 t.), cork, cheeses for Morocco; new commodities: fresh meat for overseas territories (1,500,000 escudos), copra (30,000,000), poles (510,000 escudos), palm kernels (2,500 t.), castor beans (1,500 t.).

On 22 March 1950 France and Uruguay signed a payment agreement to facilitate and intensify trade relations between the two countries. All transactions will be paid for in U.S. dollars. Contracts made previously in pesos or in French francs will be converted into dollars at the rate of exchange in either country at the date of payment. This agreement valid up to 31 December 1950 will be renewable from year to year unless notice to the contrary is given six months in advance.

GREECE (see also NORWAY)

A new agreement between Greece and Austria marks the renewal of trade relations between these two countries interrupted by the war. The value of the trade in each direction is expected to reach 9 million U.S. dollars. Austria will mainly supply sawn lumber, packing wood, woodenware, paper, magnesite, iron and steel goods. Greece will export to Austria oil, fruit, sheep-skins, tobacco, tanning extracts, chromium.

On 28 February 1950 Greece and Spain signed a trade and payment agreement covering merchandise to the value of approximately 2 million dollars by each country. This is the first agreement between these two countries since 1936.

Spanish exports to Greece include canned fish, anchovies, cork, cigarette paper, machinery, chemicals, manufactured rubber. Greek goods will consist of tobacco, silk cocoons, sponges, chromium, manganese, emery.

ITALY (see also SWEDEN)

On 22 April 1950 the Joint Italian-Austrian Commission signed in Vienna an instrument with two lists of commodities substituting those appended to the trade agreement of 19 May 1949. They will remain in force up to 31 March 1951. At the date of signing the instrument the reciprocal trade system had ended and was replaced by a U.S. dollar clearing account.

Among the Italian exports to Austria, tractors over 40 h.p., superphosphates and other industrial products or raw materials can only be exported after preliminary application for a permit. Quota commodities include oranges and tangerines (10,000 tons), fresh fruit (8,000 t.), potatoes (from 20 April to 20 June, 7,000 t.), wines and vermouth — in thousand lire — (180,000), vine plants (100,000), cotton fabric (700,000), hemp and hemp tow (400,000), pure or mixed woollen yarn and fabric (1,500,000), salted, frozen or preserved fish (50,000), chestnuts (60,000), other dried fruits (60,000), lentils, fruit trees, fruit pulp, tomato preserve, etc. There are no restrictions on the importation into Austria of olive oil, lemons, raw tobacco, rice, mustard, clover, sainfoin and gramineous seed, fresh salt-water fish, sponges, guts and bladders, special cheeses, sweetened or plain condensed milk.

Austrian products to Italy include 1,500 head of breeding cattle, timber (coniferous sawn lumber, bars, pitprops, sawmill waste, T & T poles, boxboards, plywood, wood-fibre — 708,200 m³). Girders, sawdust, fibre slabs, building timber, wooden casks and cask parts (387,000,000 lire), and 100 wooden houses. No restrictions are applied to the importation into Italy of paper pulp, cardboard, paper. Agricultural machinery (40,000,000 lire) and 172,000 scythes and 20,000 sickles, together with numerous industrial products can be imported.

Following negotiations between the economic delegations of Italy and the Netherlands and the Republic of the United States of Indonesia, a trade and financial agreement was concluded between the three countries, covering a period of one year beginning 1 April 1950. Payments between Italy and the Netherlands will be effected exclusively in clearing, while between Italy and Indonesia they will be made in pounds sterling. Reciprocal transactions, with the exception of those approved before 31 March 1950, are no longer accepted.

Italian commodities for export to the Netherlands include cheese with over 40 per cent. fat content (no quota restrictions), olive oil, brown mustard seed, natural sponges, salted guts, liquorice, roots for pipes, cotton and wool waste yarn, hemp, machines for working leather, tractor spare parts. Imports under quota restrictions: nursery products (300,000 florins), oranges, tangerines and lemons (10,000 tons), vegetable and fruit tree seed (60,000 fl.), seedlings

and grafts (25,000 fl.), dried fruits (1,200 t.), fresh fruit (1,000 t.), rice (5,000 t.), prepared and preserved fish (150,000 fl.), citrus juice (200,000 fl.), brandy, liqueurs (100,000 fl.), ornamental fish (50,000 fl.), sea salt (30,000 t.), raw tobacco (1,000 t.), wine and vermouth (12,000 hl.), herbs (100,000 fl.), skins and leather goods (420,000 fl.), rubber articles, textile goods, farm tractors and spare parts (1,500,000 fl.), chemicals, industrial products, ores, metals. To Indonesia: cotton yarn and fabric (£ 550,000), machinery, cement and other goods.

Among the Netherlands commodities which can be freely imported into Italy are draught horses, poultry, hatching eggs, salted and dried fish, barley, oat flakes, seed potatoes, green peas, flax seed, vegetable and flower seed, sugarbeet and mangold seed, scutched flax, whale oil, sawmill machinery, flax and hemp weaving machines. Special temporary imports into Italy from the Netherlands and Dutch overseas territory: Pedigree cattle, registered in Herdbook (500,000 fl.), bull sires (250 head), rams and ewes for breeding (500 head), breeding pigs (250 head), dried chicory roots (150,000 fl.), nursery products (200,000 fl.), young plants, flower bulbs, colza seed, cows and heifers for breeding (15,000 head in two half-year quotas), potato fecula (9,500 tons, in two half-year consignments). With special permit from the Ministry of Finance: butter (2,000 t.), cheeses (500 t.), casein, fresh and frozen fish, canned fish (300,000 fl.), cakes, vitamin preparations for children, cacao, beer (1,500 hl.), liqueurs. From Indonesia unrestricted importation of spices, tea, tobacco, copra, kapok, hides; quota goods: palm oil (2,000 tons), resins (£ 200,000), essential oils (£ 25,000), miscellaneous.

NETHERLANDS (see also ITALY)

The validity of the trade agreement already in force between the Netherlands and Austria was automatically extended for one year beginning 7 February 1950.

A new trade agreement between the Netherlands and Indonesia and Poland was signed on 22 March 1950, regulating the trade transactions between these three countries up to 31 December 1950.

The total value of the goods traded for these nine months is estimated at 106 million florins.

Polish exports to the Netherlands include textiles (400,000 fl.), glassware, timber, chemicals, iron and steel products.

Netherlands exports to Poland will include tea (1,250,000 fl.), reclaimed rubber (100,000 tons), essential oil, rags, Philips goods. Indonesia will supply tea, copra, rubber, quinine, tin.

According to a previous 3-year investment agreement, Poland will have to pay, before the end of 1950, three million florins for ships being built in the Netherlands ship-yards. Netherlands mercantile shipping operations are estimated at 1,500,000 florins.

A most favoured nation trade agreement, without restrictions, was signed by the Netherlands and Mexico in Mexico City on 27 January 1950. This agreement does not include the territories attached to the Netherlands before 1 July 1949. This agreement came into force on the date of its ratification at the Hague and will last two years.

In applying the most favoured nation treatment the Netherlands will put into effect its monopoly on agricultural produce.

The Netherlands and Sweden have signed a trade agreement for one year beginning 1 March 1950. Trade exchange between these two countries will amount to 285 million Swedish crowns in both directions. Many of the commodities exchanged will not be restricted by quotas in conformity with the free trade system advocated by the OEEC.

A supplementary agreement to the trade agreement of 7 September 1949 between the Netherlands and western Germany was signed in Frankfurt on 16 March 1950. It provides for an increase in German exports by the abolition of quotas for a large number of commodities or by the establishment of new quotas.

NORWAY (*see also* POLAND)

A trade agreement between Norway and Austria was signed on 19 January 1950. Many commodities have been released from the quota lists. Goods still under quota, exported from Austria to Norway, include oak veneer, hempen cord, woollen, cotton and rayon piece-goods, iron, steel, machines. Norwegian exports consist mainly of fishery products, margarine, equipment for the textile industry and tanneries, chemicals.

Norway and Greece, on 16 February 1950, extended the validity of the trade agreement of 12 March 1949 up to 31 December 1950. Lists of the commodities to be traded during 1950 are appended to the agreement. Norwegian exports to Greece will amount to approximately 18 million Norwegian crowns and Greek exports to about 2,800,000 Nor. cr. The difference will be practically fully covered by the drawing rights granted by Norway to Greece (about 2 million dollars).

A trade agreement between Norway and Hungary was signed in Budapest on 28 January 1950, and became operative on the 31st of the same month. The value of the commodities exported by each contracting party will amount to approximately 9 million Norwegian crowns.

Hungary will chiefly export feedingstuffs, hemp cord, textiles, electric equipment. Norwegian exports will include cod liver oil, paper pulp, paper and other Norwegian industrial products.

POLAND (*see also* NETHERLANDS, U.S.S.R.)

In Oslo on 21 December 1949 Poland signed a trade agreement with Norway for the entire duration of 1950. The value of Polish goods for export to Norway will amount to 74 million Norwegian crowns, while Norwegian exports will only reach 60 million crowns. The difference is to compensate for a deficit in Polish trade with Norway in 1949. Polish products include rye, sugar, coke, coal, iron and steel goods, machinery. Norway will supply fish, fishery products, calcium nitrate, pharmaceutical products, navigational instruments.

A trade agreement between Poland and Rumania was signed on 6 January 1950. It comes within the 5-year agreement concluded with a view to economic cooperation between the two countries. Trade exchange for 1950 will be 40 per cent. higher than in 1949. The value of the commodities exchanged will amount to 25 million dollars and may eventually be increased by 30 per cent. during the year.

Rumania will supply oil, timber, grain and foodstuffs in exchange for industrial goods, chemicals, electrical equipment, coke.

PORTUGAL (*see also* FRANCE)

On 19 January 1950 Portugal and Chile signed a trade agreement which chiefly regulates the payment by goods of 50 per cent. of the purchasing value of Chile nitre (between 1 January and 30 June 1950). Portuguese commodities include cork (10 million escudos), cacao (3 million esc.), resin (1,500,000 esc.), oil of turpentine (1 million esc.), Port (300,000 esc.) tools (3,750,000 esc.).

On 22 January 1950 a trade agreement was signed in Lisbon by Portugal and Finland. The trade volume will total 4 million dollars, being an appreciable increase in the amount of goods exchanged between the two countries. Portugal will supply wines, cork, foodstuffs, textiles, and ores while Finland will export industrial goods, timber and machines.

SWEDEN (*see also* NETHERLANDS)

A trade agreement operative from 1 April 1950 to 31 March 1951 has been concluded between Sweden and Finland. Finnish exports to Sweden have been raised to 65 million crowns as against 50 million by the terms of the previous agreement. Swedish exports may amount to as much as 63 million crowns as against 54 million last year.

Sweden and Indonesia have signed a trade agreement operative from 1 March to 31 December 1950, and covering a value of 80 million Swedish crowns. Indonesia will export to Sweden copra, rubber, tin and other commodities and in exchange will receive various equipment.

A trade and payment agreement was signed by Sweden and Italy in November 1949 covering a period up to 31 October 1950. It is expected that the value of the goods traded will amount to 75 to 100 million Swedish crowns. Many commodities previously on the quota list are no longer restricted as regards quantity. Swedish products include horses, eggs, seed potatoes, salted fish, agricultural machinery, mechanical pulp and cellulose, iron and steel products. Still under quota are breeding cows (1,000 head), different food products including cheese (5,000,000 cr.), fresh and frozen fish (1,500,000 cr.) and other goods.

Sweden has abolished the quota on several Italian commodities including oranges, lemons, fresh vegetables, preserved tomatoes, citrus juice, walnuts, almonds, rice, flower and vegetable seed, wine, vermouth and liqueurs, citrus oil, silk and cotton thread, woollen and cotton fabric, agricultur-

al and textile machinery. Italian commodities still under quota include fresh fruit (1,500,000 Sw. cr.), tobacco (400 tons) food products (500,000 Sw. cr.), cut flowers (300,000 Sw. cr.), crude hemp (1,500,000 cr.).

A trade and payment agreement was signed on 1 April 1950 by Sweden and Japan for the year 1950. This trade agreement, valid for 1950, is the second which has been concluded since the war. The value of this trade exchange is expected to amount to about 18,450,000 U.S. dollars, being considerably higher than the amount involved in the previous agreement — 13 million dollars.

By the terms of the payment agreement which has no time limits, transactions will be effected on open credit at the Central Bank of Japan instead of the settlement *per contra* system previously adopted.

Japan will import from Sweden paper pulp, iron and steel goods, machinery, while Sweden will obtain textiles, agricultural produce, chemicals, chinaware.

UNITED KINGDOM

On 3 February 1950 the United Kingdom and Austria signed a payment agreement in Vienna; in view of the recent abolition of quotas in trade exchange between the two countries notified to OEEC, it was not considered necessary to sign a trade agreement. Measures were studied with a view to increasing the volume of trade in both directions. Some commodities still under quota are included in the lists.

On 29 March 1950 the United Kingdom and Indonesia concluded in London a trade agreement which provides for Indonesian exports to Great Britain for a total value of 12 million pounds sterling as against British exports for a value of 7 million pounds sterling.

Indonesian exports include copra, palm oil, tea, rubber, skins. British commodities comprise textiles, machinery, tools, chemicals, pharmaceutical products, motor cars.

U.S.S.R.

U.S.S.R. and Bulgaria on 18 February 1950 signed a protocol which provides for an increase in trade exchange of 20 per cent. compared with 1949.

U.S.S.R. will supply Bulgaria mainly with cotton, agricultural machinery, fertilizers, industrial and petroleum products. Bulgarian exports will include tobacco, lead, cement.

A supplementary protocol to the 5-year trade agreement of 11 December 1947 between U.S.S.R. and Czechoslovakia was signed on 22 February 1950 and provides for a considerable increase in trade. U.S.S.R. exports to Czechoslovakia will include wheat (460,000 tons), maize (100,000 t.), barley (150,000 t.), other foodstuffs (15,000 t.), enough butter and meat to cover the requirements of the Czechoslovaks, seed oil, tea, lentils, fertilizers, industrial wood, cotton, wool, flax, jute, iron ore, copper, lead.

The total amount of U.S.S.R. commodities has been officially estimated at 3,000,000 metric tons.

Czechoslovakia will supply, among other goods, sugar, textiles, footwear, rails.

The U.S.S.R. and eastern Germany concluded a trade and payment agreement in Moscow on 12 April 1950, providing for an increase in trade exchange of about 35 per cent. as compared with last year.

U.S.S.R. will mainly supply wheat, fats, cotton, iron and metals, petroleum products. Eastern Germany will chiefly export industrial products, machinery, cement, chemicals, coal.

On 1 March 1950, in Moscow, U.S.S.R. and Hungary signed a new protocol. The value of the goods traded between the two countries will be 20 per cent. more than in 1949. Russian supplies will include cotton, agricultural machinery, forest products, iron ore, coke, metals. Hungary will export textiles, steam locomotives, barges.

A supplementary protocol to the 5-year trade agreement of 26 January 1948 between U.S.S.R. and Poland provides for an appreciable increase in the trade between the two countries. U.S.S.R. in 1950 will export 50 per cent. more than in 1949. Export commodities include cotton, flax, tractors and farm machinery, fertilizers, feedingstuffs, wheat, barley, butter, seed, fish, iron, chemicals, motor cars. Polish deliveries include sugar, textiles, paper, coal, coke, metals.

On 17 February 1950 a trade and payment agreement was signed in Moscow by U.S.S.R. and Rumania. The total value of trade in 1950 will be over 30 per cent. higher than in 1949. U.S.S.R. commodities include cotton, agricultural machinery, metals, iron ore. Rumania will send Russia forest products, foodstuffs, chemicals and petroleum products.

YUGOSLAVIA

Two supplementary protocols to the trade agreement of 7 June 1948 were signed on 20 January 1950 by Yugoslavia and Argentina. The agreement is operative from this date up to 31 December 1950. The volume of the trade will amount to 44,675,000 dollars, comprising 23,100,000 dollars for Argentine exports and 21,575,000 for Yugoslav exports.

Argentina will supply oxhides (\$ 8,400,000), washed and greasy wool (\$ 6,600,000), agricultural produce (\$ 6,000,000), linseed oil (\$ 700,000), industrial suet (\$ 600,000), quebracho extract (\$ 350,000), sheep and goatskins (\$ 250,000), tung oil (\$ 180,000), horsehair and bristles (\$ 20,000).

Yugoslavia will chiefly export raw materials: metals, chemicals, pinewood, spruce (\$ 8,000,000), oak (\$ 1,500,000), ash, walnut and poplar (\$ 300,000), packing-cases for fruit (\$ 324,000), staves (\$ 1,500,000), broom-stocks (\$ 100,000), casks (\$ 90,000), light coloured tobacco (\$ 1,500,000), hemp (\$ 750,000), hops (\$ 500,000), walnuts (\$ 80,000), dried mushrooms (\$ 75,000), cigarette paper (\$ 80,000), wired glass, glass-work.

Protocol N° 2 covers the financial clauses.

On 2 March 1950 Yugoslavia concluded a trade agreement with Brazil. This agreement provides for the exchange of commodities to the value of

about 5,540,000 dollars on each side. Yugoslavia will export chiefly hops, cement, caustic soda, cobalt, and will import from Brazil coffee, cotton, cacao, leathers and other goods.

○

On 5 January 1950 in Ankara, Yugoslavia and Turkey signed a *modus vivendi* and trade and payment agreements which became operative on the date of signing. By the *modus vivendi* the two countries are pledged to reciprocal granting of the most favoured nation treatment in respect of customs, and custom procedure, regulations and formalities, as well as shipping and transit. Under the trade agreement the exchange of commodities will be effected according to the system in force between the two countries. Certificates of origin will be required for all commodities. The total value of the goods exchanged will amount to 6,500,000 U.S. dollars in both directions.

Yugoslav products include lumber, other wood and woodenware (\$ 5,002,000), industrial and chemical products, lead and various manufactured goods. Turkish goods for export to Yugoslavia comprise cotton (\$ 3,420,000), wool and mohair (\$ 707,000), linseed (\$ 700,000), small oxhides (\$ 384,000), agricultural produce, ores, manganese. A 'Miscellaneous' section amounting to 200,000 dollars is added to each list. Payments will be made through the Central Bank of Turkey and the National Bank of the Federal Republic of Yugoslavia.

ing countries agreed on such a measure and now this Council is in full activity and its second session was held in Australia last month.

* * *

In the Mediterranean, the countries bordering it have since a long time envisaged the necessity for an international organism of marine research and study.

As early as 1910 discussions began regarding the establishment of an international commission and in 1914 it was decided to create the 'Commission internationale pour l'exploration scientifique de la mer Méditerranée'. This organism came into active existence in 1918.

Very soon the Commission was able to carry out excellent work with the cooperation of Mediterranean research stations and the big number of reports and studies published testify to its efficient action.

Unfortunately, this organism was compelled by World War II to stop its activities which, subsequently, were never taken up again.

The need for co-ordination between Mediterranean scientists is so obvious that the International Council for the Exploration of the Sea extended the activities of the Atlantic Committee, in order to remedy the lack of co-ordination in the work of scientists of the Western part of the Mediterranean.

However, this helpful action was only temporary; furthermore, it was covering only part of the Mediterranean, and this exclusively for oceanographic and biological purposes.

For these reasons and in accordance with the recommendations of the Third Conference, FAO thought it advisable to initiate the formation of a Fisheries Council covering the whole of the Mediterranean region, from biological and technological points of view. Informal talks with fisheries scientists and administrators all proved the necessity for instituting such an organism.

The Rome Meeting:

FAO decided to convene a meeting in Rome on the 19th of September 1949 to study the creation of the Mediterranean Fisheries Council. The following countries were represented by delegates or observers:

- France (including North Africa)
- Greece
- Italy
- The Holy See
- Lebanon
- Spain
- Turkey
- United States of America
- United Kingdom
- Yugoslavia

In general terms all the participating countries agreed on the necessity of having an international body to co-ordinate fisheries studies in the Mediter-



F I S H E R I E S

General Fisheries Council for the Mediterranean

In a resolution which was passed at the Third Session of the Conference of the Food and Agriculture Organization of the United Nations at Geneva (August-September 1947) it was recommended:

'that FAO should take action to initiate the formation of Regional Councils for the scientific exploration of the sea in parts of the world not now actively served by similar bodies, giving primary consideration to the following areas: North Western Atlantic, South Western Pacific and Indian Ocean, Mediterranean Sea and contiguous waters, North Eastern Pacific, South Eastern Pacific, Western South Atlantic, Eastern South Atlantic and Indian Ocean'.

In execution of these wide directives and owing to the primary importance of the Far East in the matter of fish production and consumption, FAO organized a meeting in Baguio (Philippines) in February 1948 to study the creation of a Fisheries Council for the Indo-Pacific zone. The participat-

anean region. A final resolution recommended that the interested Governments accept a draft agreement for the establishment of a General Fisheries Council for the Mediterranean. This action was approved by the Fifth Session of the FAO Conference in November 1949.

The Agreement :

The draft which was drawn up and proposed for adoption to Governments is, on general lines, very similar to the one adopted for the Indo-Pacific Council.

The functions of the future Council are determined by Article III of the draft as follows :

(a) To formulate all oceanographical and technical aspects of the problems of development and proper utilization of aquatic resources ;

(b) To encourage and coordinate research and the application of improved methods employed in fishery and allied industries with a view to the utilization of aquatic resources ;

(c) To assemble, publish or otherwise disseminate all oceanographical and technical information relating to aquatic resources ;

(d) To recommend to Member Governments such national and international research and development projects as may appear necessary or desirable to fill gaps in such knowledge ;

(e) To undertake, where appropriate, cooperative research and development projects directed to this end ;

(f) To propose, and where necessary to adopt, measures to bring about the standardization of scientific equipment, techniques and nomenclature ;

(g) To make comparative studies of the fishery legislation of different countries with a view to making recommendations to its member governments respecting the greatest possible coordination in the interests of fuller utilization of the resources of the sea.

(h) To encourage research into the hygiene and prevention of the diseases peculiar to the calling of fishermen.

(i) To extend its good offices in assisting Member Governments to secure essential materials and equipments ;

(j) To report upon such questions relating to all oceanographical and technical problems as may be recommended to it by Member Governments or by the Food and Agriculture Organization of the United Nations and, if it thinks proper to do so, by other international, national or private organizations, with related interests ;

(k) To report annually upon its activities to Member Governments and to the Conference of the Food and Agriculture Organization of the United Nations ; and to make such other reports to the Food and Agriculture Organization of the United Nations

on matters falling within the competence of the Council as may seem to it necessary and desirable.

The zone of activity of the Council has been determined by the words : ' in the Mediterranean waters such as they are geographically described '. It is also possible to extend action outside those limits with the agreement of the Governments or international organizations concerned. This rather elastic limitation was adopted in order to prevent the future activities of the Council from being hampered by too strictly determined limits.

It was also ruled that the new organism should in no way supersede or duplicate already existing organizations and for this purpose it was very carefully stated that ' the Council shall cooperate closely with other international bodies '.... and that the scientific tasks of the Council could be entrusted to those international bodies, if it so deemed opportune and useful.

It should be pointed out that the expenses of the Secretariat of the future Council, including publications, will be borne by FAO. The travel expenses and subsistence allowances of the Chairman and Vice-Chairman of the Council, when performing certain duties connected with the Council, will likewise be financed by the Food and Agriculture Organization. In this way the future Council will not be a burden to national budgets.

The agreement will enter into force upon the date of receipt of the fifth notification of acceptance. As this procedure may require some months, it was decided to establish two interim committees in order to provide continuity and to prepare the work of the opening session of the Council. One of these committees is to deal with oceanographical matters (biology) and the other with technological questions.

Delegates have already been appointed to these committees and will soon begin their work and, in this way, prepare the activities of the opening meeting of the General Fisheries Council for the Mediterranean.

Fish and protein in Southeast Asia

An estimate that the amount of fish protein food available to the people of Southeast Asia averages only about a third of what they should be eating daily was reported to delegates attending the second meeting, in April, of the Indo-Pacific Fisheries Council.

The FAO-sponsored Council met in Cronulla, Australia, site of the Commonwealth Marine Biological Laboratory.

Reporting the results of a survey, one delegate said that the average commercial landing of marine fish in Southeast Asia provided about 25 grams of fish protein daily for each person. Other sources, including fresh-water fish farming, helped to bring average consumption up to an estimated 42 grams per day.

This is about a third of the 125 grams of fish protein per day suggested as the ideal.

The report underlined the importance of the Indo-Pacific Council's objective to improve the fishing industries of the region in such a way that the catch may be increased in size and quality, and the living conditions of the people engaged in fishing may be bettered.

It was pointed out that countries members of the Council contain a large part of the world's population, and that feeding these people is a matter of tremendous urgency. The fact that so many of these people depend on fish, rather than meat, for their animal protein supply accentuates the importance of the role which the fishing industry plays.

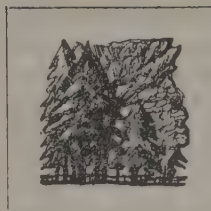
Fish production in the area, though inadequate in relation to numbers of people, is nevertheless large. Production is achieved by what Dr G L. Kesteven, Council Secretary, has described as an 'amazing diversity' of boats and types of fishing gear. After it is landed the catch is dealt with in a wide variety of ways, from the sale of live fish to the conversion of fish into a clear, almost odorless, protein-rich fish sauce. These methods, Dr Kesteven says, involve considerable ingenuity and skill, and much can be learned from a study of them.

But there is no doubt that the fishing industries of the region could be expanded by the introduction of new methods and equipment, generally to be summed up under the term 'mechanization'. At the same time, such developments can be guided and assisted by the collection and assemblage of scientific information concerning the resources. It is the function of the Indo-Pacific Council to assist in this general program of development.

Among the practical results which came from the second meeting of the Council was the establishment of a sub-committee (of the technical committee on biology and hydrology) to study the tuna fisheries. The tunas, which are high seas fish with a Pacific-wide distribution, in recent years have grown greatly in economic importance. Individual countries such as Australia, Indonesia, Japan, and the United States of America have programs of research on these species. The tuna sub-committee is designed to correlate the work of these and other countries and to standardize scientific measurements and techniques used in investigation, so that results may be comparable. This is considered to be an important advance in furthering these costly investigations.

Another of the several sub-committees established will study the fish culture of the general area, with special emphasis on the effect of transplanting species from one area to another. As fish culture grows in importance as a food source, great care must be taken to transplant species that will not prove to be injurious to the area in the long run.

Arrangements were also made at Cronulla for the Indo-Pacific Fisheries Council and the South Pacific Commission to collaborate on the fisheries program in the Southeast Asia area.



FORESTRY

Forestry in Finland

(Speech by Prof. EINO SAARI on occasion of the FAO Staff Visit to Finland, 13-16 March 1950).

If our guests would have some more time in order to travel a little in Finland, it would be easy for them to see that Finland is a country of forests. From the total area of land only 10% is cultivated or used as building sites, roads, etc. Forests occupy 71% which means 22 million hectares giving us 41 million m³ as an annual growth. This amount gives 11 m³ per person per year. Nearest to us in Europe comes Sweden with an annual growth of 8 m³ per person per year.

High figures for your forest resources do not help much if you cannot use your wood. During the winter season snow and ice favour us providing splendid material for roads for the short distance transportation of wood from the forests to the roads and waterways. Long distance transport in Finland with its vast area of forest is favoured by geographical conditions. Finland is not only a country of forests, it is also the country of rivers and lakes, and these waterways lead to almost all parts of the forests. That makes it possible to float timber down these rivers and over the lakes to the mills and cities. In this way almost all the forest area of Finland is technically accessible. Economically the situation is not so favourable after the second World War as I shall mention a little later.

The war caused heavy losses to our forestry and forest industries. We have lost 13% of our forest area, corresponding to an annual growth of 5 million m³. This is 50% more than the total annual growth of Mr Sartorius' land Switzerland, and 40% of the total annual growth of Norway. We also suffered heavy losses in transportation conditions. One of the most important wood transportation routes, the Saimaa canal, was lost. This canal connected one of our most important waterway systems to the Gulf of Finland. The great export harbour Viipuri with its surroundings was also lost. This has compelled us to make expensive changes in our transportation system for the export trade.

The post-war conditions have brought a lot of other problems too. Wages have risen more than prices. Floating in small remote rivers is therefore getting too expensive. What measures should be taken to make transport cheaper? We are planning new roads in order to be able to use motor traffic to a greater extent. But we need new machinery. This is perhaps one of those points on which FAO could help us.

Practically the whole annual production of our forests has been utilized, the average annual cut and annual growth roughly balancing each other.

Before the war we could use for export about $\frac{1}{2}$ of our annual cut. The remaining $\frac{1}{2}$ was needed for home consumption. Now, as we have lost 13% of our forests and much wood is needed for reconstruction, more than $\frac{1}{2}$ is used at home.

Of our forest area the Government owns 34%; 7% is owned by industrial companies, 57% by private persons, mostly farmers and only 2% by local communities and parishes. Government forests are situated in the north of the country. In this area the annual growth per hectare is low and the logging conditions are more difficult in this remote part of the country than in other parts of Finland. The effect is that from the annual cut 75-80% has come from the farm forests. That shows the point on which the development of our forestry essentially depends.

The improvement of farm forestry is a difficult problem as most farms are small. Investigations show that the silvicultural conditions are worst in small farm forests and the number of small farms has increased since the war on account of the resettlement of the Carelian farmers who lost their homes. As farm forestry is the most important part of our forestry we must try to increase the productivity of these forests. We try to make farmers interested in these forests, we try to increase their knowledge in forestry and we give them expert aid. Now we can note some improvement already, but not very much. The forest improvement work should be more intensive in the farm forests, but there are two difficult problems. Farmers are not interested in paying the costs of forest improvement, they are just interested in earning. The Government gives each year a certain amount of subsidies. In this way at least some improvement is possible. The second of our problems is that the growing stock in our farm forests is too low and ought to be increased in order to give a higher sustained cut. This means saving; the cutting should be less than the growth. The farmer in many cases cannot save, he needs money, as his farm does not provide sufficient money. That is a problem we have not been able to solve.

The large forest resources of Finland have developed forest industries of high standard: paper mills, pulp mills, sawmills, furniture factories, industry for prefabricated houses, etc. These are our most important industries with regard to our export trade. The exports of Finland consist of 80-90% wood. Our people are more dependent on the exports of forest products than any other country in the world. Exportation is an essential condition of civilized life on both sides of the Polar Circle. Therefore one of the most important problems is for us to maintain our international markets, and to get new markets.

We have now developed our forest industries as

fully as possible and no more raw material can be obtained for these industries as the average annual cut cannot be increased any further. However, we must increase our exports, and the only way to do this is to export more finished products and less raw material or semi-products. But how can we find a market for these products? We are very eager to work with international organizations which might help to solve this problem.

The exports of roundwood is a problem which also needs discussing. We cannot get more raw material for our forest industries, as I said. Thus there arises the question whether the exports of roundwood ought to be stopped. But our farmers favour export of roundwood in order to get more competition and better prices on the Finnish roundwood market. This is an internal problem discussed many times in Finland but not yet solved.

In the peace treaty we lost not only forests and transportation ways, but also a large part of our mills; more than 10% of our sawmills, over 20% of our cellulose mills, some of our most profitable water power stations etc. At the same time we were compelled to build new large machine factories and ship-yards in order to be able to produce the War Reparation articles. The resettlement of the refugees from Carelia was an urgent problem and bombardment losses had to be repaired. A large part of the foreign currency obtained from our exports is needed to buy raw materials and machine parts for the War Reparations and cannot be used for our own needs. Under these conditions our forest industries have not been able to get sufficient capital and foreign currency to modernize their machinery and utilize the achievements of research work.

There you have some of our post-war problems.

The economic importance of French forests

The Director of the Woods and Forests of France, M. Merveilleux Du Vignaux, in a lecture given last March at the Ministry of Agriculture*, stated that the revenue from French forests may be estimated at about 25 milliard French francs, calculated on the fellings for 1948 and the value of timber in that year. Calculating, however, the value of forest products made available to users: pitprops and wood-pulp, sawn timber, this value might amount to 65 to 70 milliard francs, not counting wood with crooked fibres and peeled veneer (about 20 milliard fr.).

In 1949, as timber prices had risen, sales amounted to nearly 160 milliard francs.

* MERVEILLEUX DU VIGNAUX, L'importance du bois dans l'économie française, Lecture published in *Etudes et Monographies*, Monthly Review of the Ministry of Agriculture, Paris, April 1950, N° 4.

On a total area of 55 million hectares, France has 10 million hectares of forest (19.56 per cent.), and yet France 'whose requirements in broadleaved wood are amply covered, is short every year of about 5-700,000 cubic metres of coniferous sawlogs and 1 million cubic metres of timber for industrial purposes, and in addition paper pulp which has to be imported.

Copsewood and coppice under timber forest annually produce some 30 million steres of small-sized timber which, now that the war is finished, no longer finds an adequate market for fuel and carbonization. Experiments are being carried out on the processing of this timber into cellulose pulp. Even, however, if these experiments prove successful, much of this timber will still remain without a buyer.

'The aims of a long-term forest policy —affirmed the lecturer—are, therefore, to adjust as far as possible needs to supply and to modify forests to adapt them to requirements'.

Studying the distribution of forests by type and proprietor, he considers that it would be advisable to improve from one and a half to two million hectares of forest land. On the other hand there are six million hectares of land of which a part could be afforested with poplars or conifers.

For 1950 it is expected that there will be an increase in imports of coniferous logs sawn in France, coniferous sawn timber, pitprops, wood for papermaking and sleepers as, no longer being able to import from western Germany, France will have to buy on the European market.

In 1950 France will export a temporary surplus of packing wood, mining and other timber from the Landes burnt forests. This situation is exceptional; the output capacity of the Landes forests is badly jeopardized and after 1950 France will need to import coniferous timber, though she could increase her exports of veneering wood and plywood.

Imports of sawlogs and wood for papermaking partly depend on the possibilities of export from other countries and M. Merveilleux Du Vignaux considers eastern Europe, Finland and Sweden as the sole possible sources with Canada for wood pulp for papermaking.

Price plays an important part. In 1951 it is expected that imports will be necessary as the French market will be upset and there will certainly be a rise in domestic prices in ratio to the supply and demand. At the end of 1950, the lecturer thinks, the French timber policy will have reached a turning-point, whence the indispensable necessity of increasing the production of timber required for French economy: increase obtained by the 'utilization of unproductive land and by the enrichment and improvement of the existing forests'. The National Forestry Fund was set up for this purpose.

International Poplar Commission

The International Poplar Commission held its 4th session in Geneva from 18 to 21 May last, with Professor Guinier (France) in the chair. Eleven nations were represented at this meeting in addition to FAO and the International Union of Forest Research Organizations.

The Commission passed recommendations in regard to the work to be carried out by the national Poplar Commissions in the different countries. It unanimously approved the nomenclature of black poplars grown in Europe. This nomenclature was also presented to the VIIth International Botany Congress in Stockholm (12 to 20 July 1950) for fuller approval.

Turkey and Austria have joined the Commission.

The next meeting of the International Poplar Commission will take place in the spring of 1952 in England by invitation of the British Government.

Forestry Meeting in Algiers

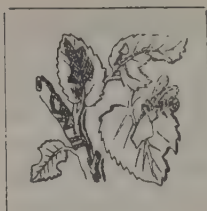
A Sub-Commission of the European Forestry and Forest Products Commission met at Algiers from 8 to 13 May to study forestry problems of the Mediterranean Basin region.

Interested countries invited to send forestry experts were Albania, Bulgaria, Egypt, France, Greece, Iraq, Israel, Italy, Trans-Jordan, Lebanon, Portugal, United Kingdom, Switzerland, Syria, Turkey and Yugoslavia.

The agenda were reforestation, conservation and soil utilization problems peculiar to the arid and semi-arid regions of the Mediterranean basin; among specific problems, control of chestnut blight (*Endothia parasitica*), a plague which in North America has destroyed all the chestnut trees on the east coast; and prevention of the encroachment of desert sands on crop lands. Other problems considered were those arising from the production, utilization and marketing of cork and other forest products of the region.

The Food and Agriculture Organization of the United Nations, under whose auspices the European Forestry and Forest Products Commission was established, was represented at the Algiers meeting by Marcel Leloup, who heads FAO's forestry program, and René Fontaine of the Geneva office.

The Mediterranean Sub-Commission was established in conformity with the first session of the European Forestry and Forest Products Commission at Rome, in December, 1948.



PLANT DISEASES AND PESTS

Dwarfing of maize in Italy

The disorder of maize called 'dwarfing' has frequently been treated in the 'Notiziario sulle Malattie delle Piante' published by the Italian Cryptogamic Laboratory of Pavia and the Plant Pathology Institute of Milan. This disease spread to an alarming extent in North Italy during the 1949 season. It first appeared about ten years ago and caused rather serious damage, but afterwards it disappeared almost completely up to 1948. During the last crop season it mainly attacked the American hybrids U. 41, U. 50, Wisconsin 464 and Kingcrost, and, to a much smaller extent, some other American varieties already acclimatized and a very few of the local varieties. In addition to North Italy, this disease was reported in Central Italy on the hybrids U.41, U.50 and Wisconsin 464 to an extent varying from 20 to 50 per cent. while the local varieties were not affected.

Professor Sibilia, of the Rome Plant Pathology Station ¹, has described the symptoms of this disease. The most striking characteristic is a marked dwarfing of the plants which is due to shortening of the internodes. The nodes have a marked swelling at the base, which soon shrinks. Brown zones develop on the stalk opposite the nodes. Another fairly frequent accompanying symptom is the presence on the leaves of greenish yellow zones localized between the leaf-veins and which give the leaf a striped aspect. In some cases the leaf acquires an anthocyanin colour which progressively becomes more intense as the pathological process increases. The tip of the leaf reddens and the disease spreads over the greater part of the leaf, and then over the entire plant which shrivels prematurely. The tassel is sometimes missing or, if present, is very frequently sterile or produces infertile pollen; the silks are not produced or are defective and do not reach maturity and, if by chance they do ripen, the number of kernels is below normal.

Not all the plants in the same field, however, are attacked to the same degree, and normal plants occur next to dwarf plants. The degree of attack varied from 1 to 80 per cent. Prof. Sibilia noted that an aphid, probably *Tetraneura ulmi*, has been found on the roots of many diseased plants. Investigations are being

undertaken to determine whether it or other aphids or leafhoppers cause the disease, and whether a virus is concerned. He compares dwarfing in Italy with other known diseases, and in particular with streak disease.

The research program of the Rome Plant Pathology Station includes study of the possibility of the transmission of a virus by seed and transmission of the disease through the soil; the identification of the aphids and leafhoppers found on maize; study of the relations between the insects and the disease and determination of the local varieties susceptible to this disease.

Prof. Biraghi ¹, following the hypothesis of Sibilia as to the possible action of a virus and the resemblance of dwarfing to the American disease, has studied the disease from the histological point of view. In cross sections of roots he observed very large radial vessels, and in the spaces between the vessels there were large cells irregular in size and shape, generally elongated and with pitted walls, joining at the periphery with the phloem cells. These also are placed in an abnormal manner, and show irregularly thickened zones. He stated that these defects lead to formations of a pathological nature which recall the structure of certain neoplasms or formations which arise following a wound. The centre of these galls is darkened by the necrosis of some cells, and a similar darkening was noted on the leaves. Taking into account the observations of other research workers together with his own, Prof. Biraghi considers that, at least as a hypothesis which deserves attention, the cause of dwarfing should be sought among the viruses. He points out that the anomalies found on maize are very similar to those observed on sugarcane attacked by Fiji disease (Sugarcane virus 2, *Galla fijensis* Holmes).

Disagreeing with Prof. Biraghi, Professor P. Grancini ², of the Milan Phytopathological Observatory, is of the opinion that at the present stage of knowledge, it cannot be taken, even as a hypothesis, that a virus is the cause of the disease. He thinks that the appearance of specific symptoms on certain plants is not, in general, sufficient to justify the conclusion that this disease is caused by a specific virus, and adds that only when the mode of transmission and the behaviour of some other (probable) hosts are known will it be possible to determine whether it is a virus already known to some extent or a virus not previously recorded.

T. Trebbi, of the Provincial Inspectorate of Brescia ³, studied dwarfing¹ of maize in that province in 1949.

He observed that the disease occurs under all soil and environmental conditions (irrigated or dry zones,

¹ BIRAGHI ANTONIO, Repertori istologici su piante di mais affette da 'nanismo', *Idem*, 1949, N° 7, p. 1.

² GRANCINI, P., Breve commento alle attuali conoscenze sul nanismo del mais, *Idem*, 1950, N° 8, p. 16.

³ TREBBI, T., Il nanismo del mais in provincia di Brescia nel 1949, *Idem*, 1950, N° 8, p. 13.

¹ SIBILIA CESARE, Il nanismo del mais in Italia, *Notiziario sulle Malattie delle Piante*, 1949, N° 6, p. 35.

hilly or flat land); yields are reduced 30 to 40 per cent. in attacked fields (about 15 per cent of the fields) damage was more or less severe in late-sown crops (May-June), but the disease never appeared before earthing up.

Studying the symptoms of dwarfing, he observed, in two fields attacked 90 per cent, that in August half of the affected plants had resumed normal vegetation, flowering regularly but with a delay of about 40 days. He noted the presence of numerous colonies of aphids on the roots. He frequently found a thickening of and cracks in the roots of the upper nodes. He also noted that the crops sown before 28 April suffered little damage while the percentage of plants attacked was higher when sown in May or June. Nonetheless he concluded it could not be deduced whether the practically fully healthy state of the plants sown before the end of April depended on the absence of aphids (for lack of breeding adults) or on the impossibility of these developing (because of the excessive dryness of the soil). Early sowing, therefore, could not be advocated as a sure method of preventing loss through dwarfing.

The resistance of the local varieties might be explained, according to Trebbi, by their natural adaptation, which would indicate that the agent of this disorder has long been present in this area, while the American hybrids, not acclimatized, succumb as soon as they are placed in an environment where they are liable to be infected. Since the disease has a greater tendency to develop if conditions are favourable, Trebbi hopes that maize hybrids from pure strains of the local varieties resistant to dwarfing will be evolved as soon as possible.

Prof. Grancini considers, among the observations of Trebbi, the cases of 'recovery' of diseased plants as most important, although caution should be observed in accepting this 'recovery' since no positive diagnosis of the disease had been made previously. Nor does he consider the development of the disease in relation to sowing period as being conclusive, having himself observed very heavy damage in crops sown on 17 May.

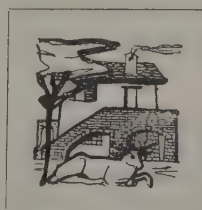
Professor Scossiroli, of the Bergamo Experiment Station¹, examined the effects of dwarfing on the yield and behaviour of open-pollinated flint maize (*Zea indurata*) and an American hybrid dent maize (*Z. indentata*). Taking the crop as a whole, the latter suffered more severely than the former. Where the flint maize was also attacked, however, no difference in the behaviour of the two types was noted. It may therefore be supposed that flint maize has a resistance to the causes which lead to dwarfing. In an experiment field for testing the yields of an open pollinated flint variety 'Scagliolo 23 A', an open-pollinated dent variety 'Pîster', and the crosses 'Scagliolo 23 A x Pîster' and 'Pîster x Scagliolo

23 A', the plots of the dent variety were all considerably attacked while little damage was caused to the flint variety and the two crosses. Prof. Scossiroli found a similar case of dwarfing (near Novara) on 15 hybrids which showed a high percentage of attack while an open-pollinated flint variety was much less affected.

Professor R. Ciferri, Pavia Phytopathological Observatory,¹ referring to earlier cases of dwarfing in Italy (1936-37) which he had examined, says that these cases, especially those of 1937, could not be attributed to the supposed, and probable, virus of the present dwarfing. They resembled more the dwarfing described by Emerson (1922) or the brachysm reported by Kempton (1920). He therefore suggests that to avoid confusion in nomenclature, the virus disease be called 'epidemic dwarfing' and the other 'hereditary dwarfing'. In his article he gives the main characteristics which distinguish these two types.

Plant quarantine regulations

An international conference on plant quarantine regulations, convened under the auspices of the Netherlands Ministry of Agriculture in collaboration with FAO was held in The Hague from 26 April to 3 May 1950. There was an excellent world-wide attendance with 71 participants, representing 18 European territories, 14 extra-European countries and 4 organizations. A detailed report will be given in our next number.



RURAL WELFARE

Development of the scientific research services in French overseas territories *

Between 1944 and 1949 the French Office for Overseas Scientific Research concentrated on training research specialists for work in tropical countries. In 1944 four centres had been set up or were in process of being organized for giving instruction in soil science, phyto-genesis, agricultural entomology and phytopathology. In 1946, another four centres were opened — medical and veterinary entomology, geophysics, biological oceanography and physical oceanography. In 1946 the ethnology and hydrology centres were added, in 1947 the centre

¹ CIFERRI, R., I. 'nanismo epidemico' e la probabile presenza del 'nanismo ereditario' del mais in Italia.

* Extract from a communication by M. RAOUL COMBES to the Academy of Agriculture of France, Meeting of 18/1/1950, *Comptes rendus hebdomadaires*, N° 2, p. 55.

¹ SCOSSIROLI, R., Conseguenze del nanismo del mais sulla resa e comportamento differenziale di mais vitrei e dentati, *Idem*, 1950, N° 9, p. 6.

on animal genetics was established and in 1948 a centre for plant physiology.

As a result of this training it was possible in five years to send 159 research workers to the overseas territories of West Africa, Togoland, Cameroun, Equatorial Africa, Madagascar, New Caledonia, Tahiti, Indochina, the West Indies and French Guiana. Courses at the centres are being continued as there is a considerable need for trained workers in these countries.

In 1944 the first Institute for training overseas research workers was started near Paris, while another institute was opened at Adiopodoumé on the Ivory Coast to give 2nd year practical instruction and to acquaint the students with the tropical environment. These two Institutes, still in process of construction, will be equipped with modern equipment; classes are beginning.

Working centres were also set up during the five years in question in tropical areas to receive the researchers of the Scientific Research Office. They are the Institute of Madagascar, authorized by Decree of 11 December 1946, with laboratories for soil science, general medical and veterinary entomology and animal biology; a biological oceanography centre is located on the western coast.

Near Noumea, the French Institute of Oceania comprises laboratories for phytopathology, agricultural entomology and oecology, soil science, geology, geophysics, oceanography and ethnology.

At Brazzaville, the Institute for Central African Studies, authorized by the Decrees of 18 June 1946 and 14 August 1947, is being built. It will be equipped for plant biology, medical and veterinary entomology and human sciences. A soil science centre in Niari and a geophysics centre in Bangui will be added.

At Yaoundé in the Cameroun, an Order of 20 December 1949 authorized the establishment of a Research Institute including a soil science laboratory and a laboratory for nutrition studies. Another institute is being set up in Guiana and at present consists of a geology service.

In Togoland, the centre in process of construction will be equipped for soil science and geophysics.

In addition to these centres the Research Office decided to set up others specializing in specific problems. One centre has just started in Senegal, while two others in the Logone-Chad region have been in operation for two years. They include services for surveying, topography, cartography, soil science, geology, hydrology. A service for the study of the migration of livestock to summer pastures, one for phytogeography and another for zoogenetic research are established in West Africa. There is also a laboratory for testing material under tropical conditions.

The French Office for Overseas Scientific Research estimates that, at the present rate, the building and equipping of its centres will be terminated in 1953.

To this end the Office has received substantial subsidies from the Investment Fund for economic and social development. In five years the Office has had a total of 1 milliard 827 million francs, of which 1 milliard 116 million in investment credit and 711 million francs in operating credit.



FAO ACTIVITIES

The Ninth Session of the FAO Council in Rome

The ninth session of the Council of FAO (World Food Council) was held in Rome, 8 through 17 May 1950. Under its Independent Chairman, Viscount Bruce of Melbourne, the Council: made financial and administrative arrangements for transferring the Organization from its temporary home in Washington to its permanent seat in Rome early next year, and brought to the attention of member governments the need for stronger financial support if the Organization is to accomplish its purpose; decided to continue the work of FAO's Committee on Commodity Problems in an effort to find solutions to the existence of surpluses in some countries while deficits are found in others; approved measures taken by FAO preparatory to undertaking its share in a world program of technical assistance for economic development of underdeveloped areas; reported little change in the World Food Situation since it was reviewed by the FAO Conference last fall.

Early in the Council's session, members heard a report by the FAO Director-General, Mr Norris E. Dodd, of his visits during recent months to Latin America, Africa and Afghanistan, and commented in the Council report that such visits are 'helpful to the countries concerned in providing the kind of understanding at policy level that can be reached only through personal contact'. During the last 18 months, the Director-General has visited most of the member countries, previous trips having carried him through Asia, the Near East and most of Europe.

With regard to the World Food Situation, the Council found that the world production (excluding U.S.S.R.) of the eight major crops — wheat, rye, barley, oats, maize, rice, sugar and potatoes — declined in 1949 by 4 % from 1948. However, 1949 production was about 2.5 % greater than the average of 1947-48 and about 9 % greater than the 1934-38 average. With a corresponding increase in population, the per caput world production of the basic crops is nearly back to prewar. The post-

war recovery rate is at present little more than keeping pace with population increase.

World production of animal products is also increasing but with a greater deficit to be made good and at a necessarily slower recovery rate. The only significant recovery is in Western Europe.

Production in the major deficit regions of the Far East and Europe has not yet been restored to prewar levels. In the Far East the present rate of progress of both production and trade is such, that returning even to low prewar per caput consumption levels is still only a distant possibility.

In Western Europe, with discontinuance of Marshall Plan aid by 1952-53, recovery to prewar levels of consumption is estimated to be just possible under the present production and trade programmes which assume favorable conditions of world economy.

Regarding the work of the FAO's Committee on Commodity Problems the Council noted that in the four months since its work began the Committee has hardly had time to do more than to initiate its activities. It also noted that 'no country has indicated so far that it has any serious problem of commodity surpluses or of food deficiency requiring special and urgent action'. Italy was unanimously chosen to replace Poland in the 14-member-government Committee, the latter country having — as has Czechoslovakia — given notice of withdrawal from FAO. In connection with the program of technical assistance, the Council laid great emphasis upon the need for integrated action among the various participating agencies, including not only FAO, but also the World Health Organization, the International Labour Organization, the United Nations Educational, Scientific and Cultural Organization, and the United Nations itself. Discrimination among the numerous possible projects, concentration upon a limited number, and the closest liaison with governments were strongly recommended.

The Council also put under way a study of the work of various international organizations as this relates to FAO's program, looking toward avoidance of duplication and more effective cooperation.

6 November was set as the time and Washington as the place for a session of the FAO Conference to finalize arrangements for transferring headquarters. The Director-General was requested to take steps toward designating the library of FAO, when consolidated in the new building in Rome, as 'The David Lubin Memorial Library'. This would recognize the 'foresight, leadership, and outstanding contribution of David Lubin in international cooperation in the field of agriculture', in connection with the establishment of the former International Institute of Agriculture in Rome.

The Council meeting was attended by the delegates of 18 member-countries (Australia, Belgium, Brazil, Burma, Canada, Chile, Denmark, Egypt, France, India, Italy, Mexico, Pakistan, Union of South Africa, United Kingdom, United States of

America, Venezuela, Yugoslavia), as well as observers from: Israel, Lebanon, Liberia, Turkey, and the Holy See, the United Nations, Economic Commission for Europe, International Bank for Reconstruction and Development, International Labour Organization, International Refugee Organization, United Nations Educational, Scientific and Cultural Organization, International Children's Emergency Fund, World Health Organization, International Wine Office, Commonwealth Agricultural Bureaux, Associated Country Women of the World, International Chamber of Commerce, International Cooperative Alliance, International Council of Women, International Federation of Agricultural Producers, International Union for Child Welfare, World Federation of Trade Union, World Federation of United Nations Associations.

Mr Antonio Segni, Italian Minister of Agriculture, welcomed the delegates and FAO representatives at the opening session of the Council, which took place in the Capitol of Rome. Lord Bruce and Mr Dodd, thanking him, expressed warm appreciation of the hospitality extended to the Council members in that historic setting.

The Council's participants were received in audience by His Holiness the Pope. Later during the session, by invitation of the Italian Ministry of Agriculture, they undertook an excursion to see the reclamation work on the Pontine Marshes.

Lord Bruce and Mr Dodd gave a Press Conference on 8 June 1950.

The Director-General's Message to the American Seed Trade Association

Mr N.E. Dodd, Director-General of FAO, prepared a message on the occasion of the 67th Convention of the American Seed Trade Association, which took place in Chicago on 14 June 1950. In it, he stressed the cooperation between FAO and the Association in the FAO programme for seed improvement.

In 1949, 30 different corn hybrids were sent to be planted in 18 countries. This year, the project was enlarged, and the Association put still larger quantities of seed at FAO's disposal, which were supplied to 20 countries, the work being extended from Europe and the Near East to India.

The Association has also helped FAO in the distribution of other seed samples, many of which are now returning to their country of origin, in greatly improved condition: *e. g.*, Sweet Sudan has been returned from U.S.A. to South Africa, barley and rye to Eastern Europe.

Other continents too share in the seed exchange. Austria has sent Blue Poppy to Arizona for oil seed research; 12 important varieties of rice from Japan are being tested in Egypt; Mexico has received a collection of native wheat seed from Ethiopia for

experimental purposes, and U.S.A. the cereal Adlay from Brazil.

FAO's cooperation with seedsmen extends to other fields; the compilation of the Catalogue of Genetic Stocks, beginning with the chief cereals; and the programme of improvement, production and distribution of seeds in all countries.

Statement by Mr A.H. Boerma at the 4th IFAP Annual Conference

Mr A.H. Boerma, European Representative of the Director-General of FAO, speaking at the 4th Annual Conference of IFAP,* emphasized the objectives and activities of FAO. We give some extracts of his speech.

FAO was created to help solve, on an international scale, fundamental problems in the field of food and agriculture, to increase food production and promote better methods of distribution so as to ensure that the food produced would be brought to the people who needed it.

Almost five years have elapsed since FAO was born, and it is certainly worth while surveying what has been accomplished thus far, keeping in mind the particular objectives of the Organization.

In order to give a realistic appraisal it must be recognized that to merely record certain successful achievements is not sufficient. Account must also be taken of the various disappointments and setbacks experienced, which must certainly have led people to wonder whether the Organization can in fact ever succeed in fulfilling its obligations, or whether, in certain respects, we are not striving to attain the impossible.

I am well aware that among farmers and their organizations there is also some criticism of the performance of FAO in the past, and the Secretary-General of IFAP Mr Cairns, when he recently addressed the Ninth Session of our Council in Rome, said that a prominent leader of the IFAP had even stated that the farmers in his country had written FAO off as a possible organ through which their problems could be solved.

I would be the last person to deny that to date FAO's efforts in certain fields have not produced the results expected. In judging its activities, however, it should be remembered that FAO is not a super government with legislative powers reaching all over the world, but an organization of 63 independent countries each having an equal voice in formulating its policies; the extent to which these 63 countries are prepared to integrate their national policies into an overall world policy has a very great influence on the effectiveness of FAO. It is very clear therefore that the work of the Organization cannot proceed at a faster pace than that dictated by its members.

Our objectives have always been regarded as long-term ones and, in surveying the situation therefore, our attention should not be concentrated so much on what problems have actually been solved to date, but rather on the progress that has been made in attempting to reach a solution.

Now let us look at our program of work.

Broadly speaking, our functions lie in three main fields. First of all, I should speak of our efforts to *raise the levels of nutrition and standards of living*. As regards nutrition, one must admit that this is a field in which much can be done. Unfortunately nutritional problems are seldom taken into consideration by countries when planning their national food and agricultural programs; in fact, only a few countries have a definite nutritional policy. FAO is therefore trying to remedy that situation. One of the measures we adopt is to encourage countries to form National Nutritional Councils which would examine all aspects of nutritional problems and, at the same time, advise governments regarding the extent to which nutritional considerations have a bearing on general policy matters.

In attempting to raise the standard of living we have of course, to consider various problems in addition to those in the field of nutrition. The general standard of living in many countries is still very low, and in order to make some progress in this field we must make an overall attack on the influencing factors; for instance, by combatting unemployment if necessary, raising general educational standards, and improving housing and other living conditions. Under this heading we give special attention to the rural population; it is our Rural Welfare Division which is particularly concerned with this aspect of the program.

We are well aware that all such problems are of great interest to farmers and their organizations, and we realize, therefore, that a prerequisite to ensuring progress in this work is close collaboration with such organizations.

A second important field of action is *the improvement of agricultural production* (including forestry and fisheries) by introducing better techniques. In this respect it is clear that practically all the countries of the world, even those which are most advanced, still have great potentialities which can be developed. Now what is the FAO approach? It cannot follow a uniform pattern, because of the varying conditions in our 63 member countries. In very many of these countries agricultural technique is already very advanced, and excellent technicians are available who know what measures should be taken to further improve existing technical developments. In such countries it is recognized that improvements can be best achieved through a well organized extension service which can bring down to the farmers the knowledge gathered in Universities, Research Stations and other technical institutions. In such areas of the world, as for instance

* See page 112.

in the greater part of Europe, one of the main functions of FAO is to serve as an instrument through which specialists from the various countries can be brought together to exchange information regarding the newest technical developments and the methods of applying them. For example, in 1949, an international meeting on agricultural extension was organized in the Hague. Most European countries were represented at this meeting, and there were extremely useful discussions among the specialists. In close collaboration with FAO, OEEC followed up that meeting by sending small teams of experts to its member countries, to make a survey of existing national machinery for agricultural extension and recommendations for its improvement. FAO intends to pursue this work further by requesting these European countries to report on the action taken in the light of the conclusions reached at The Hague meeting and, where applicable, on the basis of the findings of the joint OEEC/FAO survey terms.

In addition to the work on agricultural extension, technical meetings have been organized by FAO in the European region, on subjects such as:

- Livestock Feeding
- Soil Conservation
- Maize Improvement
- Animal Diseases
- Artificial Insemination
- Food Preservation.

Some of these meetings have been in the nature of training courses, generally held in places where facilities for demonstrations, excursions, etc. were available. Assistance was also secured of outstanding experts from different parts of the world who were able to inform participants of the newest technical developments in the particular field of study. Another such course is planned to be held this summer at Reading, England, on Dairy Technology.

Other meetings have touched on policy questions. For instance, at the meeting on Livestock Feeding in Zurich, we discussed all the aspects of this problem, and singled out various subjects to be followed up at subsequent technical meetings or by studies.

Incidentally, in the technical field, FAO does not favour large gatherings. It is felt that much more can be achieved by meetings of small groups of specialists than by large congresses.

Another fact that should be mentioned is the existence of many specialized organizations of an independent character, among which we find both good and bad. FAO's policy is to establish the closest possible cooperation with those organizations which have played, and still play, an important role in their respective fields. We realize very well that in the technical field in particular we cannot do the job alone, but must rely on the active support of all such bodies which, either privately or collectively, are in a position to further our cause, and we have, therefore, an effective working relation with

such organizations. FAO has even promoted the establishment of new bodies such as the European Association for Animal Production and the General Fisheries Council for the Mediterranean, and is at the moment trying to lay the foundation for a European Organization for Plant Protection.

As far as the underdeveloped countries are concerned, we must necessarily take another line of action. In such areas there are also many excellent technicians who perhaps contribute more toward the raising of technical standards within their individual countries than FAO will ever be in a position to achieve. However, there are many significant gaps which must be filled, and which FAO attempts to bridge by making available the services of its own technicians. The efforts of such specialists are concentrated mainly on the training of national experts in order that the latter may in turn be in a position to impart knowledge to the farmers.

FAO has at its own disposal thirty specialists well trained in various fields and, in addition, outstanding technicians are frequently borrowed from member countries for specific assignments in backward areas.

While on the subject of technical improvement in less developed countries, I should of course refer to the expanded program for technical assistance which is being initiated under the auspices of the United Nations in cooperation with all the international agencies. As you are no doubt aware, this vast project was introduced by President Truman in point 4 of his inaugural address in January 1949, and since then it has been generally referred to as the 'Point IV' program. Considerable progress has been made, both within FAO itself and in collaboration with the United Nations and the Specialized Agencies. It is considered that economic development, followed by large and continuing capital investment, is undoubtedly the remedy, outstanding beyond all others, for solving many of our existing problems. I feel I cannot emphasize too strongly the importance of this program to the advanced countries, where the main problem today is to find markets for their output in those areas of the world where, by reason of their general low economic standards, there is not sufficient purchasing power to buy goods from abroad. If, therefore, we can succeed in raising the standing of living, and can enable the underdeveloped countries to produce cheaply and efficiently food and goods for exchange with produce from the developed countries, we will be a major step forward in solving the complex economic problems which face the world today. It should be further realized that this program can only succeed if, parallel with the efforts to improve techniques, there is a flow of capital towards the countries to be developed.

FAO's third main field of action takes in *economics and distribution*. In this regard I should first of all draw attention to the enormous amount of eco-

conomic data which FAO collects and disseminates to its member countries. To enumerate even the most important statistical and other types of publications issued by FAO in the economic field, would mean going into too much detail. All such information is intended to acquaint our member countries with the economic situation on a world-wide basis. In this respect FAO serves as a fact-finding unit, and it is hoped that countries make the utmost possible use of the data supplied when formulating their national policies.

Another very important problem in the economic field concerns the distribution of agricultural commodities. From the outset FAO has given high priority to this work. It must be admitted, however, that the results could have been much better.

It has been our experience in this field that countries readily agree with the general principle that food should be made available in those places where it is required, and at reasonable prices both to the producer and the consumer. However, as soon as it comes to working out concrete details the picture is very different.

The FAO Secretariat has done its very best to put forward concrete proposals for consideration by governments. Its first attempt was as far back as 1946 when Lord Boyd Orr advocated the creation of a World Food Board. FAO member countries agreed in principle with this proposal at our second Annual Conference in Copenhagen and entrusted the working out of details to a Preparatory Committee which met for three months in Washington at the end of 1946. It became clear from the conclusions of the work of that Committee that governments were not prepared at that time to adopt such far-reaching measures as those recommended by our former Director-General. In 1949 a new effort was made. A panel of outstanding technicians working with FAO experts, came forward with another proposal, namely to set up what they called an International Commodity Clearing House. It will suffice to recall that this was also turned down after a rather lengthy discussion during our last Annual Conference.

We are well aware that the above-mentioned initiatives were followed with deep interest by farmers. I should mention that in November last year, our Fifth Annual Conference recommended the establishment of a special FAO Committee to assist in bringing together the surplus and deficit countries, and to advise as to the safeguards that ought to be adopted so as to ensure that the disposal or sale of special surplus goods is effected in the general interest of all concerned. This Committee has been functioning for only three or four months, and it is therefore still too early to judge its usefulness. Its activities were reviewed during our recent Council Session, and on that occasion it was emphasized that perhaps the Committee ought to be given wider terms of reference. Particular stress was laid on the impor-

ance of paying more attention to problems concerning prices of agricultural products.

It is certain that the last word has not been spoken regarding distribution problems. It is hoped that governments will press for the adoption of more far-reaching measures in order to untangle the present snags in the world food distribution. Farmers and their organizations in the various countries can do a lot toward influencing the thinking of governments in this respect.

So far my remarks have been limited to a review of FAO's past and present activities. Now I should like to refer briefly to our program for the future. Generally speaking, this will follow the same pattern as in the past, since it is imperative that we maintain a consistent policy. The mere fact that we must make every effort to achieve our main objectives prevents our switching our attention too frequently from one project to another.

Another important factor which will influence FAO's undertakings in the future is the intended move of headquarters from Washington to Rome, in accordance with the decision taken at our last Annual Conference. It is still too early to forecast exactly what this change in environment will mean to the Organization.

I believe that the most outstanding influence on FAO's future work will be its general financial position. Although operating on a very limited budget, — smaller than that of most of its main sister organizations — there is a tendency on the part of governments to continually charge FAO with additional responsibilities. It becomes more and more difficult to reconcile this tendency with the limited financial resources of the organization. We must therefore aim at concentrating our forces on a certain number of projects of world-wide importance and avoid taking on additional obligations, unless governments are prepared to increase the present scale of contributions.

In concluding, may I just remark that FAO can only achieve tangible results if it is enjoying the support of public opinion. It is our sincere hope that farmers in particular should regard FAO as an instrument which can materially contribute towards their well-being and prosperity and that of their families. With this in mind, it is clear that FAO regards IFAP as one of the most important organizations with which it maintains contact. I can further assure you that FAO is prepared to seriously consider any proposal your organization might wish to make in an effort to tighten the strings which unite our two organizations.

* * *

Mr Marcel Leloup, Director of the Division of Forestry and Forest Products of the Food and Agriculture Organization, went to the Near East on a forestry mission to Iraq, Lebanon and Syria.

The mission was requested by the delegations of these countries at the last annual conference of FAO, held in Washington in November, 1949. The countries Mr Leloup visited sought advice on the possibilities of developing their forest resources and industries, and on the possibilities of establishing sound forest policies and of making the best use of forestry and reforestation for soil conservation. They are following a general trend that assigns a key role to forestry in all soil conservation activities.

* * *

Mr Harry G. Clowes, chief of the Food and Agriculture Organization's rice section, represented FAO as an observer at the annual conference of the *Rice Millers Association* 1-3 June in Houston, Texas.

An education exhibit on rice which he took to the conference was part of the program. It consisted of about 100 samples of different kinds of mill grade rice from twelve countries of Latin America, Europe, Asia and the Far East, which Mr Clowes had collected in his travels throughout the world.

The purpose of the display was to show rice millers of U.S.A. and their representatives the types of mill grades and varieties of rice consumed elsewhere in the world.

* * *

A survey of rural cooperatives in the Caribbean area has been made by Dr D.B. Brossard, of FAO's Rural Welfare Division. Dr Brossard, a Brazilian, joined the FAO staff on 16 May 1949. He was formerly Professor of Agricultural Economics in the University of Rio Grande do Sul, Brazil.

* * *

The Government of Colombia requested the help of Dr S. S. Easter, FAO entomologist and grain storage specialist, in planning for safe grain storage. Dr Easter left FAO Washington headquarters on 24 May and spent about a month in Colombia. During the first week in June, he attended the opening of the grain storage silos in Bogota. The silos are built by the Instituto Nacional de Abastecimientos, the government agency authorized to buy, store, and distribute grains and other foods. These new silos are an important beginning in a well-developed plan for good storage of grain in Colombia, according to Dr Easter.

* * *

The FAO Rural Welfare Division has undertaken a study of rural women's and youth organizations throughout the world. It is hoped that this study will help to develop contacts between rural organizations, to clarify the nature of common problems and the possibilities of mutual aid, to guide and stimu-

late organizations of other countries. FAO has sent a Questionnaire on the matter to all the different organizations interested.

* * *

Mlle Lucienne Joly, Chairman of the Rural Welfare Commission of the *National Council of Belgian Women*, was appointed early in 1950 to the FAO Rural Welfare Division Standing Advisory Committee, which advises the Director-General on the Division's programme of work.

At a meeting of the Committee held in Washington, 13-17 March, Mlle Joly described the activities of the Commission she heads, which is within the National Council of Belgian Women (a national branch of the International Council of Women). It conducts surveys of rural problems, assembles information, formulates programmes, and stimulates authorities toward the betterment of rural welfare conditions in Belgium.

Mlle Joly stressed the point that the Commission cooperates closely with FAO.

* * *

Through the FAO-sponsored 'pilot project' on infestation control, Costa Rica, during the past year, has been quietly at work putting into practice some of the elements embodied in the expanded programme of technical assistance. Much of the credit for this undertaking must go to the Costa Rican Consejo Nacional de Producción.

* * *

Since last August a year-long cooperative demonstration project of grain storage and infestation control has been underway. FAO has brought to this area the newest techniques developed in other parts of the world and adapted them to the conditions found in or around the Caribbean, with the assistance of Dr Stephen S. Easter, entomologist who heads the FAO infestation control programme and Mr R.A. Davis, entomologist loaned to FAO by the British Ministry of Agriculture and Fisheries.

Asian Centre on Agricultural and Allied Development Projects

Invitations to send participants to the Asian Training Centre in Pakistan this fall have been sent to 15 governments by the Food and Agriculture Organization, one of the sponsoring agencies. At the Centre responsible officials and others concerned will receive training in modern methods of planning and appraising agricultural and allied development projects.

Establishment of the Centre, officially designated the Asian Centre on Agricultural and Allied Development Projects, was announced in Karachi on 24 April. It will be in operation in Lahore, Pakistan, from 1 October through 22 December 1950. It is

sponsored jointly by the Government of Pakistan, the United Nations, the International Bank for Reconstruction and Development, and FAO, with the Economic Commission for Asia and the Far East cooperating, and will be the first international training centre of this type ever conducted.

The sponsoring authorities expect that the Centre will prove useful to the Nations of the region as a concrete measure in speeding the progress of economic development throughout the region.

'The object of the Centre is to help responsible officers in countries in Asia and the Far East to plan and present agricultural and allied development projects. It should also be of assistance to national agencies in the task of choosing particular projects for inclusion in their program and in determining the priority of different projects'.

Many of these projects, 'can be financed with domestic funds. In the case of projects which also require some foreign financing, private or public, the training provided by the Centre may also aid countries to carry out the resolution of the last FAO Conference that "governments desiring international financing for their agricultural and other development projects should take immediate action to prepare specific and well-documented projects, and submit them for consideration by existing international financing institutions, private or public." Governments are advised that the Centre will be staffed by six to eight international experts of high calibre provided by the participating international agencies, and by five to ten technical consultants from Pakistan and other countries of the region. Courses will be designed to be of special interest to key administrative and technical officials. The government of each country or territory is invited to send up to eight persons.

Invitations have been forwarded to the Governments of Afghanistan, Burma, Ceylon, China, India, Indonesia, Korea, Nepal, Pakistan, the Philippines, and Thailand, and to the Governments of Australia, France, the Netherlands, and the United Kingdom, with respect to their territories in Asia.

Second Latin American FAO Nutrition Conference

The following information has been received by FAO from Rio de Janeiro.

The second Latin American FAO Nutrition Conference made a flying start at the Quitandisha Hotel in Brazil's famous mountain resort Petropolis. At the preparatory meeting, with FAO's Aykroyd presiding, Brazil's Josue de Castro was elected president on the motion of Dr A. Munilla from Uruguay seconded by Dr A. Gonzalez Puccini of Venezuela.

Dr Munilla and Dr Gonzalez Puccini were elected vice-presidents.

The first plenary meeting was presided over by Eduardo Bios Filho, Brazilian Health and Education Minister who welcomed the delegates and stressed the importance of the meeting. He praised the United Nations specialized agencies' efforts to solve 'great problems with remote roots and historical antecedents', asserting that the nutrition experts gathered here would 'study all facets of this Latin American-wide question' and referred back to the first Montevideo meeting saying that Brazil has been carrying out its recommendations.

The second speaker, Dr Aykroyd, Secretary-General of the Conference, read a message from the Director-General of FAO. Dr Aykroyd, after reviewing the earlier Nutrition Conference, said the 'Montevideo Conference made a broad survey of the nutrition situation in Latin America. The report presented a great deal of background information and also a great number of recommendations. At this Conference perhaps it was unnecessary to consider afresh in detail many basic background problems.... we shall take stock of the progress achieved since 1948... for example at Montevideo we referred to prevention of endemic goiters... at this conference we may be able advise governments more specifically on steps which could be taken immediately to eradicate this disease'. Aykroyd, referring to the presence of four WHO representatives, said 'we have the benefit at this conference of the cooperation of WHO'.

President Josue de Castro in an expressive speech analysed the United Nations and specialized agencies' contribution to peace asserting, 'hunger is the enemy of peace'. He said he belonged to optimist idealists who did not believe the outlook was hopeless. He sought to demolish the arguments of those who believe the hunger problem to be insoluble, citing figures to show that nature is not 'petty or stingy', that it provides eight acres for basic food when only two are needed. Against Malthusians Castro asserted contrary to Malthus that 'hunger causes surplus population', that to solve the problem of super-population people must be fed properly, not killed off. He attacked also those who believe that erosion is too great a handicap and concluded asserting that hunger is a cultural problem and man-made plague.

The conference work was distributed among three committees: The first, under Chairman Alfredo Riquelme of Chile, on general considerations, nutrition problems, progress achieved since 1948; the second, Chairman Carlos Collazos of Peru, on investigation methods; the third, Chairman A. Pena of Costa Rica, on supplementary feeding and endemic goiter. The General Rapporteur was Jose Portella of Ecuador.



PUBLICATIONS

Calorie Requirements. Report of the Committee on Calorie Requirements, FAO Nutritional Studies No 5, 72 pp. Price 75 cents. The French version of the Report which forms part of the FAO Nutritional Studies series, will be published in the summer number of 'Annales de la Nutrition et de l'Alimentation', issued by the 'Centre national de la Recherche scientifique'. Reprints will be made available to the member States to the extent of the number fixed for official distribution free of charge. The Committee on Calorie Requirements was convened for the purpose of advising FAO on the methods to be employed in assessing calorie requirements. The main task of the Committee was to define the guiding principles and to formulate general recommendations applicable, with the appropriate adjustments, in different parts of the world and to different population groups. It was realized that these recommendations, in the existing state of knowledge, could only be of a provisional nature, but that nonetheless they would be of immediate practical, not only to FAO but also to everyone concerned with the problem of food requirements.

The Committee decided to proceed by extrapolation beginning with the requirements of a reference man who is 25 years old, in good health and shows normal physical fitness. Weighing 65 kg. (143 lb.), he lives in the temperate zone, at an average temperature of 50°F. His diet is adequate and well balanced and his weight is constant. His weekly activity is split up as follows; per working day, 8 hours of physical labour of the type indicated further on; 4 hours of sedentary activity (for example, reading or writing), 5 to 10 km. walking on level ground and at least 2 hours spent in the open; each non-working day, light exercise and sport. His occupational activity is approximately equivalent to that of a light industry worker, truck driver, dairy or truck farmer, and general laboratory assistant. According to the Committee such an individual would require an average intake of 3,200 calories daily.

The Committee also examined different aspects of the problem of calorie requirements such as state of health, nutritional rehabilitation, type of diet and ethnical factors. Close attention was given to certain factors which affect the requirements in calories, for instance, the body size, age, environmental conditions and activity. The variations due to size of the body, age, the ambient temperature were calculated and it was shown by examples how to adjust the requirements of the

reference individual, when the individuals studied differed on one or all of the above-mentioned points. Methods were described for calculating the average requirements in calories, per individual and per day in different populations.

Throughout the report stress is laid on the provisional and conjectural nature of the values attributed to calorie requirements and the adjustment figures recommended, which are liable to modifications according as fuller information on alimentation and state of hygiene will become available. The method advocated by the Committee to determine the energy requirements of different population groups living under different environmental conditions is relatively simple, and such that it is possible to verify the validity of the principles on which it is based. These are explained and the possible direction which should be taken in research in order to define and expand the knowledge of calorie requirements, is indicated.

The report is supplemented by appendices, one dealing with the relation existing between calorie requirements and body size, and another with the application of calorie requirement figures in the estimation of national levels of consumption and available food supplies and in the adjustment of production and food consumption goals.

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A French edition of FAO Agricultural Studies No 5 entitled '*Carences alimentaires du bétail*' came out in May 1950. The original in English 'Nutritional deficiencies in livestock' (see this *Bulletin* No 7, 1948) was first published in 1948, while a second edition was issued in August 1949.

The chapters dealing with symptoms of nutritional deficiencies are based on a series of reports — Recommended nutrient allowances for domestic animals — published by the National Research Council in Washington, D.C., U.S.A.

Numerous photographs illustrate this booklet of 117 pages which is available at 1 dollar (U.S.).

* * *

On 27 April 1950 the **Commodity Reports** issued the first **Rice** number of a series of reports intended to show the world rice situation. The first number was prepared from statistical data and information available up to 15 March 1950. The production, international trade, prices and consumption of rice in the world are examined and 9 tables complete the report. It is hoped to bring out a second rice report in 1950. Price 25 cents (U.S.).

* * *

The **Commodity Report Fats and Oils** was published by FAO on 31 May 1950. This report is also the first of a series on the world situation as regards fats and oils. The second number will come out

in October-November when data on the oilseed and maize crops and on hog production will be available, together with the trade statistics for the first six months of 1950. The first number is an appraisal of the 1950 outlook, these estimates being based largely on projections of the 1949 crop and foreign trade trends. The report proper contains 5 tables, while the statistical appendix is composed of 10 extensive tables indicating the trends in production, trade and consumption of fats and oils in the world. Price: 25 cents (U.S.).

* * *

Volume I of FAO's **Yearbook of Food and Agricultural Statistics 1949 (Production)** is the third published by FAO since the end of World War II and is the first which is fully trilingual (English - French - Spanish).

It has been attempted to go beyond the scope of a statistical reference work on international agricultural production. A fuller concept of the international agricultural economy is made possible by the inclusion of a section on land use, an expanded treatment of population, particularly of the agricultural population and labour force, and the addition of data, which appear for the first time, on the means of production (commercial fertilizers, tractors, and pesticides). A final chapter contains price series in major producing and trading countries. Price indexes of agricultural and general wholesale prices show the relative position of farm compared to industrial products. The cost of food to the consumer is shown in a second index and is compared to the general cost-of-living index for a large number of countries.

New crop tables have been included on commodities which are important in parts of the world presently referred to as under-developed areas, where statistical coverage and reporting is still incomplete. Among these are sorghum and millets, various pulses, cassava, sweet potatoes, bananas, figs, and dates.

An index of countries by commodities gives easy reference to date for any particular country.

The publication contains 270 pages and costs \$ 3.50.

* * *

The trade volume of the 1948 **Yearbook of Food and Agricultural Statistics** makes available for the first time in three years an official collection of internationally comparable statistics of the trade of all major agricultural commodities, including grains, sugar, oleaginous products, livestock and products, and major fibers. Resuming the series previously published by the International Institute of Agriculture, the yearbook covers a field in which many countries have not yet resumed war-disrupted publication schedules. It numbers 238 pages in an English-French edition, with Spanish notes, and the price is \$ 3.50.

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'Legislative Information' published in Rome by the Legislative Service of FAO, is addressed to the member governments, National Committees of FAO and to agricultural organizations.

Erratum

We apologize to Miss Hockin for a mis-spelling of her name on page 47 of No.1, 1950. For Miss Margaret L. Nochein, read Miss Margaret Hockin.



U N O

World Health Assembly

The Third World Health Assembly, attended by delegations and observers from 63 countries and territories, ended in Geneva on Saturday, 27 May 1950. The Rajkumari Amrit Kaur, Minister of Health for India was elected President of this year's Assembly and Dr J.A. Höjer, of Sweden, was elected chairman of the Committee on Programme. In his concluding address of 25 May, Dr. Höjer asked each committee member to return to their countries with the resolve to ask their governments for contributions to the work of WHO, at least 10 to 15% greater than those authorized for the 1951 budget. Rajkumari Amrit Kaur added the suggestion that voluntary contributions from the public should also be asked for to swell WHO funds.

Mr Trygve Lie laid the foundation stone of the new wing of the Palais des Nations to accommodate the permanent Headquarters of WHO at Geneva.

The Assembly met in plenary sessions to approve recommendations made by the Committees and to deal with other matters, including elections of member countries entitled to designate 'technically qualified persons' to serve on the Executive Board.

While maintaining and approving WHO campaigns against the three 'top priority' diseases: malaria, tuberculosis, and venereal diseases, the Committee on Programme decided also to expand activities in the field of communicable disease. On the subject of antibiotics, the report of the Expert Committee was approved. A number of research programmes were also approved including further study of virus diseases, and other diseases.

Relations between WHO and UNICEF, and the activities of the joint UNICEF/WHO Committee on Health Policy, were also discussed. The Assembly adopted a resolution embodying a principle already enunciated by FAO regarding the continuing needs of children from the international point of view. This principle is that, in future developments of

international programmes for children, the services of the appropriate permanent agency of the United Nations should be utilized to the maximum degree, and that any special administrative machinery maintained by the United Nations itself should be concerned only with fund raising, with co-ordination and with overall programme planning.

The Assembly authorized certain adjustments in the Programme and Budget for 1951. On the subject of a proposal to amend the Constitution of WHO it was pointed by the Director-General of WHO, Dr Brock Chisholm, that it would be unwise to change the Constitution of the organization at this early stage and that, in any case, the proposal would mean a step backwards in that it could turn the Executive Board from a body of technical experts into a political body.

WHO - Technical assistance programme for under-developed areas

The Joint Committee on Programme and Finance, on 24 May, paved the way for the implementation of the part of WHO in the projected United Nations programme of Technical Assistance to under-developed countries, by approving a 12 million dollar budget for expanded activities in advisory and technical health services.

This programme comprehends a wide variety of services to governments including health demonstration areas, and campaigns dealing with malaria, maternal and child health, environmental sanitation, mental health, venereal diseases, tuberculosis, public health administration, nutrition, as well as technical training of medical and auxiliary personnel, research on antibiotics and special epidemiological studies. Particular importance is attached to joint work with the Food and Agriculture Organization for decreasing the number of malaria victims among agricultural workers and simultaneously bringing about increased agricultural production.

The resolution adopted by the Joint Committee on Programme and Finance, authorizes the WHO Director-General to participate in the various Technical Assistance bodies set up by the United Nations and to implement the expanded programme as soon as funds are available. The Director-General is furthermore, authorized to undertake Technical Assistance activities in countries even though they are not Members of the World Health Organization.

Yugoslavia, Ceylon and India have already made direct contributions for WHO participation in the Programme of Technical Assistance for Economic Development and the United States is in process of voting a large sum for this programme.

WHO/UNICEF - New international health projects

Several new international health programmes involving the participation of the United Nations International Children's Emergency Fund and the World Health Organization, were approved on 31 May at the conclusion of a meeting of the Joint WHO/UNICEF Committee on Health Policy. These programmes include: training of medical and health personnel for maternal and child care and assistance in research on and production of vitally-needed antibiotics and insecticides. WHO was further asked to prepare a brochure on methods of milk pasteurization. The Committee also reviewed the work of the newly-created International Children's Centre in Paris and discussed the question of new BCG vaccination programmes, now under way in several countries of Europe, Asia, Africa and Latin America. A large-scale scheme for training in India of child health workers received unanimous and whole-hearted approval from the eight-member Committee.

Among other projects, the Committee discussed the publication of a monograph on modern techniques of milk conservation, with a view to assisting governments in the operation of their milk pasteurization plants.

UNESCO 5th General Conference

The 5th General Conference of UNESCO was held in Florence, Italy, from 22 May to 17 June 1950. Delegates were present from 55 member-countries, as well as representatives from Korea, and the United States of Indonesia and of Jordan, both of which had requested admission to the Organization's membership.

The main task of this Conference was — as UNESCO's Director General explained in Paris at the beginning of May to the Anglo-American Press Association — to establish the Organization's double programme: one, on a general basis, covering several years, the other, more specific, for 1951, and which is in reality a smaller and more exact copy of the former.

The programme's three chief aims are: to contribute to international intellectual cooperation, by promoting contacts and meetings between specialists and by distributing documentation; to encourage and promote the progress of mental instruction, with a view to giving all men, to whatever group they belong, the possibility of sharing in mental progress, and improvement in the conditions of life; to develop international understanding. In addition to this general programme, important questions on details and on the budget demanded definition.

The program also includes prevention of the encroachment of desert sands on crop lands towards

which scientists from different countries will contribute their assistance, and soil erosion, irrigation, crops are other items. In the field of natural sciences, an American resolution for regional research centres and laboratories to advance scientific knowledge was endorsed. The first such centre will be in Western Europe. The Natural Sciences department will also devote an extra 25 thousand dollars to increasing the work of science cooperation offices around the world. In cooperation with the International Bureau of Education, the Director General will carry out enquiries into the teaching of science in primary and secondary schools.

UNESCO will also participate in the program of the United Nations in regard to technical assistance to under-developed countries.

The 6th UNESCO Conference will be held in Paris in 1951, while Uruguay has invited the delegates to hold the succeeding session — the 1952 Conference — in Montevideo, its capital.

33rd International Labour Conference

The 33rd International Labour Conference met in Geneva from 7 June to 1 July 1950. The Conference has two objectives, namely, each year it examines the social situation in the world as well as the activity of the International Labour Organization and its permanent Secretariat, the International Labour Office and, in addition, it assiduously proceeds with its work on international social legislation resulting in international conventions and recommendations establishing labour and living standards for workers of all countries.

This year the report of the Director General of the International Labour Office, Mr D.A. Morse, particularly stressed the problem of the output capacity of labour and showed to what extent the increase in output capacity is linked to the well-being of the workers and their full employment. The study of the ILO on checking unemployment with a view to obtaining an international full employment policy, and data and reports on the application of international labour conventions and recommendations, were submitted to the Conference. A general report on agricultural labour prepared by the ILO; and methods for establishing minimum wages in agriculture, were also examined. A draft international convention on the latter item was submitted to the delegates to decide on the different points which the international text would have to cover. The majority of the governments consulted by the ILO recognized that an international convention on this question should be adopted. The governments will be consulted once more and a draft of the final text will be submitted to the Conference in 1951.

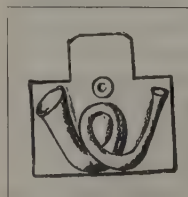
ILO - Towards increasing European migration

In the closing session of the ILO's Preliminary Migration Conference on 9 May 1950, the delegates of about thirty governments, of the United Nations and of its interested specialized agencies adopted, with the unanimous agreement of the European emigration countries, of the immigration countries and of the UN agencies, a series of reports and resolutions designed to reduce the obstacles to migration of workers from Europe.

ILO was requested to intensify its present activities in the field of migration, and the UN and specialized agencies were urged, in a general resolution to 'do all in their power to further European migration by technical assistance or other means'.

The Conference called on the governments and inter-governmental agencies 'to contribute in a spirit of understanding and full human solidarity to a satisfactory solution of the problems caused by surplus population in certain parts of Europe'.

Mr Jef Rens, Assistant Director-General of ILO and conference, secretary-general, said, when summarizing the various technical reports adopted: 'They deal with the information needed for migration and the organization of migration operations, such as recruitment, selection, assistance to migrants, emigration and immigration formalities, transport, reception, placement and settlement, transfer of funds and social security rights'.



NEWS IN GENERAL

Fourth Annual Meeting of the IFAP

The Fourth Annual General Meeting of the International Federation of Agricultural Producers was held in Saltsjobaden, Sweden, from 29 May to 8 June 1950. It was opened by the Swedish Minister of Agriculture in the presence of H.R.H. the Crown Prince Gustaf Adolf. Delegates attended from: Australia, Canada, Finland, France, Germany, Iceland, India, Kenya, Luxembourg, Mexico, Netherlands, New Zealand, Union of South Africa, Switzerland, United Kingdom, United States of America, FAO was represented by Mr A.H. Boerma, Mr A.L. Erikson, Mr R.W. Miller.

At this Fourth Meeting, the 40-odd member organizations of IFAP from 27 countries gave attention to international trade and related economic problems emphasis being placed on the rejection by governments of the proposed International Commodity Clearing

House and the work of FAO's Committee on Commodity Problems. The butter-margarine question was examined during discussion of the Report of the Paris Meeting of European member organizations of IFAP on Dairy Products and Eggs, the Report by FAO on Butter and Margarine, and the statements submitted by IFAP member organizations on this problem.

In its consideration of agricultural cooperation and rural welfare topics, the Meeting studied the report prepared by FAO's Rural Welfare Division on its present and planned work in agricultural cooperation.

International Confederation of Agricultural Credit

The International Confederation of Agricultural Credit held its General Assembly in Zurich from 11 to 13 May 1950. Following examination of the reports on agricultural credit in Austria, Belgium, Canada, France, Germany, Italy, Netherlands, Spain, Switzerland and Turkey, and the report on international agricultural credit activity during the past 18 years, submitted by the Secretary General, the Assembly unanimously adopted the following resolutions:

The ICAC (1) affirms the importance of agriculture and calls attention to present credit requirements which chiefly specialized institutions adapted to the needs of agricultural production can cover; (2) notes that short-term loans, also called land loans or operative loans are becoming increasingly more general, being financed normally by fund deposits which should be developed further and by issuing houses; (3) notes the general inadequacy of funds for investment loans, also called equipment or improvement loans.

The ICAC decided (1) to propose to ILO and also to FAO convening a conference in which ICAC would take part to discuss agricultural problems in relation to credit and indebtedness, and all questions referring to the financing of investments in agriculture; (2) to instruct the central committee of ICAC to centralize the studies which have already been made and to continue them in liaison with the interested States, on the question of establishing an international or European agricultural credit institution; (3) to submit communications to the Government of the United States, to the European Governments and also to the important international organizations - UNO, ILO, FAO, IFAP, CITA, Council of Europe, Assembly of Europe, OEEC, ECA, European Confederation of Agriculture, with a view to stressing the importance of agriculture, its present credit requirements and the necessity, in every country of western Europe, of devoting a

large part of the ECA counter fund account to the financing of productive investments in agriculture in conformity with the initiative of ICAC concerning the setting up of an international or European agricultural credit institution; (4) to adopt the conclusions of a report submitted by Mr A. Cramois, Director General of the French National Bank of Agricultural Credit, on the maintenance of agricultural prices in connection with the agricultural credit establishments, and to invite the governments to continue action in this direction.

International Landworkers' Federation

The International Landworkers' Federation (ILF), one of the ten non-governmental organizations, institutions and federations who have 'consultative status' with FAO, held its Congress in Zürich, Switzerland, 3 through 5 June 1950. ILF was founded in Amsterdam in 1920, and now comprises 12 national trade unions, covering a total of some 535,000 members.

The Congress elected as President Mr E. G. Gooch, M. P., President of the English National Union of Agricultural Workers, and as Secretary, Mr A. de Ruijter, Secretary of 'Algemene Nederlandse Landarbeidersbond'.

Mr J. M. Marek, of the FAO European Office in Rome, attended the Congress as FAO observer, and made a statement, regarding, in particular, cooperation between FAO and ILF, and its planned intensification.

The Congress decided to hold its meetings regularly every two years in future, instead of every three, and amended the ILF statutes with particular regard to changes, rendered necessary by ILF's withdrawal from the World Federation of Trade Unions (WFTU) and subsequent affiliation to the newly-established International Confederation of Free Trade Unions.

The Congress also increased the contributions to be paid by member trade unions, with a view to the intended drive to enlist the membership of further trade unions and to encourage their creation in countries at present without them.

The International Confederation of Free Trade Unions (ICFTU) sent a delegate to the Congress, who promised ICFTU's support and assistance for this organizational work.

The ILF relationship to the International Labour Organization, the Coordinating Committee of the International Trade Secretariats, the Regional Organization of Agricultural and Horticultural Workers in Scandinavia, the International Federation of Agricultural Producers, and the Christian International Landworkers' Federation were discussed, and policies for the ILF Executive Committee were laid down.

Report on nutrition in Great Britain

A report was published on 3 March 1950 by the British Medical Association's Committee on Nutrition, which was set up in 1947 under the Chairmanship of Lord Horder.

The report deals in its four main parts with nutritional needs, food consumption, clinical aspects of nutrition, and psychological and practical aspects of nutrition.

Its main conclusion can be summed up in the following sentence taken from the report: 'The picture produced is, on the whole, not unsatisfactory in the view of the Committee, bearing in mind the stress and strain of the past few years and the severe shortages in food with which the country has been faced'.

World food and world population

At a conference on world food and world population held in London during March under the auspices of the Association of Scientific Workers: Dr Julian Huxley pointed out features in world population increase, and their reasons.

Dr Le Gros Clark, analysing the agricultural problem, emphasized the need of health and education among farming populations, for profitable cultivation of the land. All agriculture's difficulties, including absentee landlords, bad markets, lack of capital, pests and diseases, outmoded methods of husbandry, can only be overcome by the large-scale cooperative, with modern machinery and methods. Its use calls for an Agricultural Revolution.

Lord Boyd Orr, former FAO Director-General, spoke on the international aspect of the agricultural problem, emphasizing the benefits of world cooperation.

Dr Bunting of the Overseas Food Corporation, and Sir George Stapledon spoke on nitrogen and phosphate fertilizers, new crop varieties, methods of land-development in Great Britain, etc.

CONFERENCES

CONGRESSES - MEETINGS

1 9 5 0

JUNE

1 to 4

Zurich, 2nd International Congress and Show of Fruit Juice Producers

7 to July 1

Geneva, 33rd International Labour Conference

12

Lake Success, Conference on Technical Assistance

12 to 24

London, International Wheat Council

20 to 23

Paris, 1st International Congress on Food Distribution

21 to July 15

London, Conference of Commonwealth Agricultural Bureaux

26

Geneva, Conference of International Non-Governmental Organizations

27 to 28

Geneva, UN Consultative Committee on Public Information

27

Washington, Interim Coordinating Committee on International Commodity Agreements

JULY

3 to 5

Paris, Meeting of Experts on Population Problems

3 to August 16

Geneva, UN ECOSOC - 11th Session

6 to 12

London, International Union for Child Welfare General Council

6 to 14

Geneva, 3rd International Conference on Public Education

9 to 15

Brussels, International Congress of Agricultural Industries - 8th Session

10 to 22

Reading, International Meeting on Dairy Technology

12 to 22

Stockholm, 7th International Botanical Congress

12 to August 21

Montreal, UNESCO School on the Teaching of Geography and International Understanding

15

Oslo, International Commission for the Regulation of Whaling - 2nd Session

19 to 21

Amsterdam, FAO Meeting of European Experts on Land and Water Conservation and Utilization

23 to 28

Paris, International Social Service Conference

24 to August 1

Amsterdam, 4th International Congress of Soil Science

Geneva, UNESCO International Conference on Public Education - 13th Session

JULY or AUGUST

July or August

Stockholm, Working Party on Biological and Chemical Methods of Weed Control

AUGUST

7 to 19

Nuwara Eliya (Ceylon), Meeting on Land Utilization in Tropical and Sub-Tropical Countries

15 to 18

Copenhagen, International Physiological Congress

24 to September 2

Athens, 6th International Vine and Wine Congress

27

Amsterdam, International Federation for Housing and Town Planning, 20th International Congress

28 to September 1

Geneva, European Forestry and Forest Products Commission

SEPTEMBER

5 to 15

Lake Success, UN ECOSOC Subcommittee on Statistical Sampling - 4th Session

6 to 16

Paris, International Bank for Reconstruction and Development - 5th Annual Meeting of Board of Governors

6 to 16

Paris, International Monetary Fund - 5th Annual Meeting of Board of Governors

10 to 13

Rome, European Tobacco Conference

17 to 24

Bergen (Norway), Meeting of Fisheries Technologists

18 to 23

Lausanne, 3rd International Congress of Chocolate and Cocoa Producers

19

Lake Success, UN General Assembly - 5th Session

(tentative)

Rome, Meeting for the Establishment of Regional Fisheries Council for the Mediterranean
Washington, Technical Committee on Physiological Requirements of Nutrients
Washington, FAO Council - 10th Session

Fairs and Exhibitions

JULY

19 to August 17

Ostend, International Fair

AUGUST

7 to 19

Chicago, 1st International Commercial Fair in the U. S. A.

20 to September 20

Izmir, International Fair

22 to September 2

Stockholm, St Erik's International Fair

27 to September 1

Leipzig, International Fair

SEPTEMBER

1 to 15

Plovdiv, (Bulgaria), International Fair

2 to 17

Strasbourg, International Autumn Fair

2 to 17

Budapest, International Fair

4 to 21

Bari, Levant Fair

8 to 25

Parma, 5th Preserves Fair and Packing Show

9 to 24

Lausanne, 'Comptoir suisse'

9 to 24

Ghent, International Flanders Fair (agricultural material, weaving, inland water transport)

13 to October 2

Warna (Bulgaria), International Fair

10 to 12

Cologne, International Autumn Fair

10 to 17

Vienna, International Fair

17 to 22

Frankfurt/Main, International Autumn Fair

26 to October 5

Utrecht, International Autumn Fair

SEPTEMBER-OCTOBER

Helsinki, International Fair

SEPTEMBER-OCTOBER

Karachi (Pakistan), International Fruits and Vegetables Fair

OFFICIAL ABBREVIATIONS FOR INTERNATIONAL ORGANIZATIONS

ENGLISH

UNICEF - ICEF = International Children's Emergency Fund (UN)
ICAO = International Civil Aviation Organization
ILO = International Labour Organization (with its Permanent Secretariat: International Labour Office, ILO)
IRO = International Refugee Organization
ITO-IC = International Trade Organization, interim Commission
ITU = International Telecommunication Union
UN = United Nations
ECE = United Nations Economic Commission for Europe
ECLA = Economic Commission for Latin America
ECAFE = Economic Commission for Asia and the Far East
UNESCO = United Nations Educational, Scientific and Cultural Organization
UPU = Universal Postal Union
WHO = World Health Organization

Intergovernmental Organizations

ECA = Economic Cooperation Administration
ERP = European Recovery Program
ICCICA = Interim Coordinating Committee on International Commodity Arrangements
IOE = International Office of Epizootics
IWO = International Wine Office
OEEC = Organization for European Economic Cooperation

FRENCH

FISE = Fonds international de secours à l'enfance (de l'ONU)
OACI = Organisation de l'aviation civile internationale
OIT = Organisation internationale du Travail (avec son Secrétariat permanent le BIT = Bureau international du Travail)
OIR = Organisation internationale pour les réfugiés.
CI-OIC = Commission intérimaire de l'Organisation internationale du commerce
UIT = Union internationale des télécommunications
NU = Nations Unies
CEE = Commission économique des Nations Unies pour l'Europe
CEAL = Commission économique pour l'Amérique Latine
CEAEO = Commission économique pour l'Asie et l'Extrême-Orient
UNESCO = Organisation des Nations Unies pour l'éducation, la science et la culture
UPU = Union postale universelle
OMS = Organisation mondiale de la santé.

Organisations intergouvernementales

ACE = Administration de la coopération économique
PRE = Programme de relèvement européen
ICCICA = Commission provisoire de coordination des ententes internationales relatives aux produits de base
OIE = Office international des épizooties
OIV = Office international du vin
OECE = Organisation européenne de coopération économique

LEGISLATIVE NEWS

SUMMARY : I. **FOODSTUFFS** (France, Luxembourg). — II. **AGRICULTURE :** (a) Raw materials for agriculture (Belgium); (b) Inland settlement (Spain); (c) Grants of uncultivated land (Italy); (d) Landed property (Spain); (e) Small agricultural holding (Egypt); (f) Pollution of waters (Belgium); (g) Food and industrial crops (Spain); (h) Grain crops (Spain); (i) Sugar production (Spain); (j) Alfa and cotton (Spain); (k) Seed production and trade (Spain); (l) Viticulture (Luxembourg); (m) Agricultural credit (Italy); (n) Phyto-sanitary control (Morocco); (o) Birds harmful to crops (Belgium); (p) Grazing (Spain, Luxembourg); (q) Live-stock sanitary regulations (Belgium, Spain); (r) Bee-diseases (Spain); (s) Sericulture (Spain). — III. **ECONOMICS AND MARKETS :** (a) Customs duties (Belgium, Spain, France, Luxembourg); (b) Wine and spirits (Spain); (c) Technical control and conditioning of food preserves (Morocco); (d) Trade, price control, and price fixing: (i) *sugarcane* (Spain); (ii) *cereals* (Belgium, France); (iii) *silk cocoons* (Spain); (iv) *feculas and tapioca* (Belgium); (v) *cotton* (Spain); (vi) *edible oils* (Morocco); (vii) *wool* (Spain); (viii) *milk and dairy products* (Spain and France); (ix) *pulses* (Spain); (x) *potatoes* (Spain); (xi) *rice* (Switzerland); (xii) *vanilla sugar* (France); (xiii) *ammonium sulphate* (Spain). — IV. **STATISTICS** (Belgium, Luxembourg, Portugal, Switzerland). — V. **FORESTRY** (Spain, Morocco). — VI. **FISHERIES** (Algeria, Spain, France, Portugal). — VII. **RURAL WELFARE** (a) Maternity insurance (Algeria); (b) Agricultural cooperative societies (Spain).

I. - FOODSTUFFS

FRANCE

■ An Order of 8 April 1950 (*J. O.*, N° 96, 22 April 1950, p. 4303) contains provisions relating to the supply of flour for the civilian population. The National Inter-Professional Office of Cereals nominates the millers entitled to sell their flour direct to the bakeries in a Department other than that in which the mill is located. In such cases the National Inter-Professional Office of Cereals fixes, if need be, flat rates per quintal for delivering the flour. The difference between these flat rates and the departmental flat rate for the delivery of flour to the bakeries located in the Department in which the mill is situated, is refunded to the millers by the Bureau for standardizing transport charges for wheat and rye.

LUXEMBOURG

■ An Order of 7 March 1950 (*M. L.*, N° 17, 18 March 1950, p. 404), so as to assure the full utilization of domestic wheat of the 1949 harvest, provides that wheat growers who on 1 April 1950, still hold wheat of their 1949 crop held for sale, are required to make a return of same.

II. - AGRICULTURE

(a) Raw materials for agriculture

BELGIUM

■ An Order of 4 May, 1950 (*M. B.*, N° 147, 27 May 1950, p. 4287), sets up in the Ministry of Agriculture an Advisory Committee on raw materials for

agriculture, to give advice (1) on measures to be taken relating to the preparation, manufacture, trade in and analysis of fertilizers, cattle feeds, and phyto-pharmaceutical products; (2) on the trade in crop and horticultural seed and seedlings. The Committee may appoint sub-committees for the study of special problems.

(b) Inland settlement

SPAIN

■ The Decree of 9 January 1950 (*B. O. del E.*, N° 25, 25 January, 1950, p. 327) approves the estimates of receipts and expenditure of the National Institute of Land Settlement for the financial year 1950. The capital of the Institute is raised to 75 million pesetas, by the issue of bonds. A further sum of 75 million pesetas is also obtained by the issue of bonds for the purchase of farm holdings intended for settlement and allotments.

(c) Grants of uncultivated land

ITALY

■ Act N° 199 of 18 April 1950 (*G. U.*, N° 106, 9 May, 1950, p. 1394) amends the provisions in force relating to the grant of uncultivated land to the peasants. Applications for the grant of uncultivated or inadequately cultivated land should be sent in to the Prefect qualified to act for the area in question. The Prefect gives his decision in an order issued in consultation with a Committee consisting of an expert official appointed by the Ministry of Agriculture and Forests, who is its President, and of four members appointed by the Prefect and nominated by the respective professional organizations, two from among the operating farmers, of whom one

Legislative annals prepared by the Legislation Service of FAO. For previous issues see also N° 1 & 2 of 1947, 3, 4, 5, 6, 7 of 1949, 1 of 1950 of the European Bulletin of FAO.

is a land-owner and the other a tenant, and two from among the agricultural labourers. An official of the Prefecture, nominated by the Prefect acts as Secretary. The Committee must give its opinion within 30 days of the date of the application for the grant, and the Decree of the Prefect is issued ten days after the Committee have given their opinion.

(d) Landed property

SPAIN

■ A Decree of 10 December 1949 (*B. O. del E.*, N° 13, 13 January 1950, p. 150) contains the new regulations of landed property in Spanish West Africa. The need of a new regulation of the matter has made itself felt recently as a result of the development of the territories placed under the colonial administration of Spanish West Africa.

The new system respects the habits and customs of the natives but aims at introducing a good land tenure system, built on modern foundations, without which a sound land-settlement and credit policy cannot be developed. Even the system of land grants is highly simplified, the system of fixed prices being exchanged for a more elastic one under which the price is fixed case by case. Finally the opening of the 'Registro de la propiedad de Africa Occidental Española' completes the new regulations by facilitating the future development of the land tenure system to the utmost extent possible.

The Decree consists of three sections and of transitory measures. The first section 'Concerning Landed Property' contains two chapters, one on property in general, the other on land grants. The second section 'On the Registration of Landed Property', contains four chapters of which the first deals with the Register of landed property in Spanish West Africa and the titles that must be entered in the register; the second with the conditions, forms, and effects of registration; the third with the methods for keeping the Register, and the fourth with the Keeper of the Register of Landed Property and with the inspection of the entries. The third Section contains measures relating to land credit.

(e) Small agricultural holdings

EGYPT

■ Act N° 33 of 1 April 1950 (*J. O. E.*, N° 45 4 May 1950, p. 2), amends articles 3 and 4 of the Act N° 69 of 1942, as amended by the Acts N° 87 of 1944 and N° 55 of 1945, reducing the land tax in the case of farmers operating smallholdings.

The right to exemption is decided each year on the basis of the tax levied on the taxpayer regardless of changes that may have occurred in the course of the year in the condition of the holding.

(f) Pollution of waters

BELGIUM

■ An Act of 11 March 1950 (*M. B.*, N° 117, 27 April 1950, p. 3282), provides measures for the protection of waters against pollution. It is forbidden to pollute sea water, navigable water-courses, water-courses that are neither navigable nor used for floating, the waters of drainage canals inside polders and of drainage-works, and generally speaking of all waters belonging to the public domain by throwing into or placing in them objects or materials, or by discharging liquids into them. The regulations are infringed if one of the above acts is such as to affect the water, either making it malodorous or putrescible or else by making it injurious for the wild fauna and aquatic flora, for cultivated plants or domestic animals, making it unfit for watering animals, for irrigating the land, for industrial or domestic uses, unless the above conditions should be the result of the discharge of substances authorized by the authorities.

(g) Food and industrial crops

SPAIN

■ An Order of 27 January 1950, issued by the Ministers of Agriculture and of Industry and Commerce (*B. O. del E.*, N° 35, 4 February 1950, p. 303), introduces amendments into the systems for the formation of stocks of foodstuffs with a view to converting them into industrial products or for food consumption.

The Order of 3 October, 1947, in force until now, by allowing some farm products to be set aside for the use of the processing industries or for food consumption, had as its purpose to encourage the transformation of dry fields into irrigated fields, or to increase as much as possible the production obtained from non-irrigated lands by enabling them to benefit by the facilities the Order granted to lands thus improved. Now, the 1950 Order, while confirming, the special facilities set up by the Order of 1947, wishes to favour as much as possible wheat-growing in conformity with the policy actively pursued by the Spanish Government in face of the present difficulties met with in supplying the country with wheat.

The advantages granted by the Order are reserved for operating farmers cultivating irrigated lands sown to wheat, beans, potatoes, rice, sugarbeets, sugarcane, and groundnuts; or non-irrigated lands sown to wheat, barley, oats, millet, maize, spelt, haricot beans, chick-peas, lentils, potatoes, and sugarbeets. The formation of stocks is however only allowed for the products listed above grown on irrigated lands recently transformed by private owners at their own expense, with or without the economic assistance of

official bodies, or else obtained from non-irrigated lands which are now unproductive. Beginning with the crop year 1950-51 permission may be given to form stocks of wheat on all areas that are to be transformed from dry into irrigated lands, provided however, that the use of the water does not injure other irrigated lands.

■ Circular N° 736 of 8 February 1950, issued by the General Commissariat for Supplies and Transports (*B. O. del E.*, N° 48, 17 February 1950, p. 746) contains detailed regulations for the application of the aforesaid Order. After defining the lands and the farm products that may be 'stored', it lays down that in the case of the formation of stocks of farm products to be used as food, the organizations hereafter mentioned are the only ones authorized to make contracts with operating farmers cultivating lands sown to the products that may be stored: Official bodies; industrial or commercial undertakings; cooperative syndical associations for the workers and employees of agricultural and industrial cooperative societies; hospitals and sanatoriums; religious communities; charitable institutions and colleges; army, navy and air-force corps and units; cooperative societies for consumption. In the case of stocks formed in view of industrial processing, the only enterprises authorized to make contracts are industrial concerns set up before 1 July 1949, and belonging to the groups listed in the circular, which also contains provisions relating to the formation of the stocks, the gathering of the crops, and the fixing of the part there of assigned for storage, etc.

■ Another Circular issued by the same Commissariat, of 6 February 1950 (*ibidem*, p. 755) contains detailed provisions regulating the delivery of the certificates showing that the farms authorized to make contracts for the formation of stocks of farm products intended for food consumption or for industrial processing have been inspected. It lays down the formalities for making applications for authorization, the conditions required for lands and crops entitled to benefit by the measures contemplated to encourage the formation of stocks, etc.

(h) Grain crops

SPAIN

■ A Decree of 28 April 1950, (*B. O. del E.*, N° 120 30 April 1950, p. 1882) contains provisions for harvesting cereals and pulses, the purpose being to increase to the maximum extent possible the national production of bread grains and pulses which provide the staple foods of the Spanish people. These new measures make no substantial alteration in the system and the policies so far followed, but they stimulate

the interest of the farmers and their natural inclination to grow these crops, both by enlarging the areas sown and by raising the yields through better systems of tillage. For this purpose measures have been taken permitting the farmers to dispose freely of the crops obtained from the areas sown over and above those required by law, or of additional quantities obtained as the result of higher per unit yields. For this purpose, the Minister of Agriculture must fix well in advance of the opening of the 1950-51 wheat season, the minimum area that farmers are required to sow to wheat, barley, spelt, and maize. The farmers are indeed required to deliver to the National Wheat Service the quantities remaining in their hands after deducting from the total harvest the compulsory stocks, set aside for seed and for family consumption, and the quotas that must be delivered; but the said Service will advance to the farmers a sum equivalent to the official prices and the crop bonuses, and will deliver at the same time a warehouse guarantee (*resguardo de deposito*) which is freely negotiable.

(i) Sugar production

SPAIN

■ An Order of 13 March 1950, issued by the Presidential Bureau of the Government on a proposal made by the Minister of Industry and Commerce, jointly with the Minister of Agriculture (*B. O. del E.*, N° 74, 15 March 1950, p. 1086), authorizes the General Commissariat of Supplies and Transports to control during the 1950-51 season the whole output of sugar and molasses, and requires the farmers to deliver to the pools their whole sugarbeet and sugarcane production. The average delivery price for sugarbeets is fixed at 480 pesetas per metric ton. The price of white sugar, inclusive of packing and net of tax, is fixed at 590 pesetas per quintal at the factory, or on rail. The price thus fixed for sugar is based on a supposed beet sugar content of 12.5 per cent. Before the opening of the sugar season, *i. e.*, before July 31, 1950, the price of beets and of sugar will be raised or reduced, should the yields vary from the average.

■ An Order of 16 March 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 84, 25 March 1950, p. 1270), fixes the additions or reductions to be made in certain areas to the average contract price for the delivery of beets and sugarcane, in conformity with the provisions of sections 2 and 6 of the above Order.

■ Two other Orders of 16 March, 1950, of the same Ministry (*ibidem*, p. 1271) approve standard contract forms for the purchase and sale of sugarcane and sugarbeets during the 1950-51 season. The standard official contracts are the same as those ap-

proved by Order dated 19 February 1949. Only one amendment has been introduced, relating to the allocation of advances to the farmers to meet cultivation costs.

(j) Alfa and cotton

SPAIN

■ An Order of 16 May 1950, issued by the Presidential Bureau of the Government (*B. O. del E.*, N° 140, 20 May 1950, p. 2203) confirms for the purchase and sale and the circulation of green and dried alfa the régime of free bargaining and circulation already proclaimed by the Order of 17 May 1948. Liberty in the purchase and sale of these products began on 1 May 1950.

SPAIN

■ An Order of 17 March 1950, issued by the Ministry of Agriculture (*B. O. del E.*, N° 106, 16 April 1950, p. 1659), lays down the conditions of the concession by the 'Instituto de Fomento de la Producción de Fibras Textiles' of the eighth cotton zone, to the Concessionaire company 'Algodonero del Ebro, S. A.' as from the 1948 season to the end of that of 1957.

■ Another Order of 17 March 1950 issued by the same Ministry (*B. O. del E.*, N° 108, 18 April 1950, p. 1695), contains the conditions of the contract for the ninth zone, granted in concession by the aforesaid Institute to the 'Algodonera de Castilla S. A.'

■ A third Order of the same date, 17 March 1950 (*B. O. del E.*, N° 109, 19 April 1950, p. 1711) relates to the conditions for the cotton concession granted in the tenth cotton zone to the 'Algodonera de Catalana, S. A.'

■ An Order of 22 May 1950 of the Ministry of Agriculture (*B. O. del E.*, N° 146, 26 May 1950, p. 2295), extends for two years, 1950 and 1951, the provisional concession of the eleventh cotton zone to the 'Algodonera Castellano Leonessa, S. A.' under an Order issued by the same Ministry dated 15 April 1948.

(k) Seed production and trade

SPAIN

■ An Order dated 18 February 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 59, 28 February 1950, p. 937) contains new measures for the regulation of the trade in horticultural, forage and industrial crop seeds, etc. This trade had already been regulated by the Decree of 10 March 1941, com-

pleted by the Order of 4 December, 1943. Experience has suggested the issue of some special rules to make sure that the work carried out to secure selected seed should not be nullified by bad marketing. Honesty in the seed trade is assured by eliminating from this work all injurious factors, and by coordinating the supervision exercised by the Government through the National Institute for Selected Seed 'Instituto nacional de semillas selectas' set up by the Decree of April 18, 1947, and by the Central Service for the Prevention of Fraud 'Servicio central de defensa contra fraudes'

■ An Order of 5 March 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 80, 21 March 1950, p. 1205), provides further measures for the control and inspection of all matters relating to the trade in alfa, clover, and sainfoin seeds.

Experience in the application of the 1941 regulations had shown how difficult it was for the concessionaires to comply with the conditions laid down in the contract relating to the production of clover, sainfoin and esparto seed. Consequently, when the second public offer of concessions was made in 1949, it was found necessary to exclude those seeds from the concessions in spite of the need of supervising their production so as to control the spread of dodder which damages the crops. The new regulations of February 18, 1950, have assured much more efficient means for the control of the clandestine trade in seed, and the Ministry of Agriculture has deemed it advisable to require the 1941 concessionaires to comply with the conditions of the contract they had accepted as regards the production of alfa seed and has extended the measures adopted to the production of clover and sainfoin seed also. Special tares have been allowed for the production of selected seed in the two years immediately following the publication of the order reintroducing the control.

(l) Viticulture

LUXEMBOURG

■ A Grand-Ducal Order of 22 March 1950 (*M. L.*, N° 22, 31 March 1950 p. 537), contains measures for cutting and reducing the vine plantations. Fallow or uncultivated lands, arable or forage fields, and meadows and orchards may no longer be planted to vines except in the case of special permissions when these lands are in the midst of vineyards and enjoy conditions favourable for vine cultivation. Direct producing vine-stocks may not be used for reconstructing old vineyards nor for stocking new ones, and the existing plantations must be uprooted before 1 January 1955. A Ministerial Order will contain a list of the stocks that may be used for reconstructing vineyards.

(m) Agricultural credit

ITALY

■ A Decree of 19 April 1950 (*G. U.*, N° 99, 29 April 1950, p. 1283) contains provisions for rural credit for improvements. Advances repayable over a period of 30 years bearing interest at the rate of 5% are granted by the State to institutes for agricultural improvement credit, up to a total of 1,200 million lire.

(n) Phytosanitary Control

MOROCCO

■ The Dahir of 24 December 1949 (*B. O.*, N° 1946, 10 February 1950, p. 153), provides for the control of the production, circulation, sale and plantation of certain kinds of cultivated plants. The control is exercised over the sanitary condition, the authenticity of the variety, the conditions of production, delivery, and plantation. It is extended also to imports. Under this control, general or special prohibitions may be ordered for the production, sale, circulation, or plantation of plants or parts of plants. The plants subject to this control are specified by Vizierial decrees which will also specify the formalities of the control and the measures to give effect to the Dahir.

■ A Vizierial Order of 14 January 1950 (*ibidem* p. 153), lays down that persons engaged or purposing to engage in the production of plants or parts of plants subject under the order issued by the Director of Agriculture, Commerce, and Forests, to the control provided by the Dahir of 24 December 1949, must make a return of same to the Chief of the Agricultural Services of the Region not later than 1 October 1950. This return must be renewed each year not later than 1 October.

■ An Order of 6 February 1950, issued by the Director of Agriculture, Commerce, and Forests (*B. O.*, N° 1946-bis, 15 February 1950, p. 185), in view of the need of preventing the spread of *Capnodis tenebrionis* F. (a buprestid beetle) in the orchards of Morocco, extends the provisions of the Dahir of 24 December 1949, and the Vizierial Order of 14 January 1950, above-mentioned, to the following plants: plum-trees (all species of the genus *Prunus*); peach-trees (all species of the genus *Persica*); almond-trees (all species of the genus *Amygdalus*); cherry-trees (all species of the genus *Cerasus*); apricots (all species of the genus *Armenica*); quinces (all species of the genus *Cydonia*); apple-trees (all species of the genus *Malus*); pear-trees (all species of the genus *Pyrus*); Japanese medlars (all species of the genus *Eriobotrya*).

Plants or parts of plants belonging to the above botanical species, may not be imported, alienated,

transported or planted if they are infested by *Capnodis tenebrionis* F. or by any other buprestid larvae when found at the base of the stem or in the roots. This prohibition applies to all lots or all shipments containing plants infested by parasites or coming from infested plantations or on which the presence of adult specimens of the *Capnodis tenebrionis* F. have been noted.

■ Owing to the presence of a dangerous virus disease in some cotton plantations in Morocco, and the danger that it may be transmitted by the seed, a Vizierial Order of 27 January 1950 (*B. O.*, N° 1950, 10 March 1950, p. 270) proclaims as 'zones infested' by the virus disease of the cotton plant known as 'leaf curl' (*Gossypium virus I* Farquharson) those areas subject to prohibitions or to phytosanitary measures connected with this disease. Farmers, traders manufacturers, etc., are forbidden to keep, stock, cede, or utilize as seed-grain or for sowing, seed from cotton-plants coming from the plantations located in the aforesaid infested areas.

(o) Birds harmful to crops

BELGIUM

■ An Order of 5 May 1950 (*M. B.*, N° 134, 14 May 1950, p. 3880), authorizes the Minister of Agriculture to order the destruction of colonies of crows and of rookeries which cause serious injury to the crops. The destruction is to be carried out by the owners of the lands on which these birds nest, by shooting them, removing nests and eggs, or by poison, within a period of not less than six months. If the rookeries are not destroyed within the time fixed, the work will be carried out by official action.

(p) Grazing

SPAIN

■ An Order of 20 March 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 89, 30 March 1950, p. 1339) sets up a Committee to study and revise the legislation in force on the use of grasslands, pastures and fallow lands, and to draft new legislation for the future regulation of this matter on more systematic lines than those now followed.

LUXEMBOURG

■ A Ministerial Order of 23 March 1950 (*M. L.*, N° 24, 4 April 1950, p. 557) contains provisions regulating the grazing of cattle coming from Luxembourg, on Belgian territory.

(q) Livestock sanitary regulations

BELGIUM

■ An Order of 5 April 1950 (*M. B.*, N° 98, 8 April 1950, p. 2706), amends the Order of 22 March 1950 (see *Bulletin*, 1950, N° 1, p. 60) making exceptions to the sanitary police measures relating to the carriage of one-day chicks and of live poultry addressed to breeding or fattening poultry farms.

■ As an exception to the Order of 8 February 1950 (see *Bulletin*, 1950, N° 1, p. 60), and Order of 27 April, 1950 (*M. B.*, N° 126, 6 May 1950, p. 3554), allows pigeons, chicks, ducklings and goslings to be placed on sale in fairs and markets.

■ An Order of the Regent dated 12 May 1950 (*M. B.*, N° 144, 24 May 1950, p. 4133), amends the Royal Order of 20 September 1883, regulating the general administration of the sanitary regulations for domestic animals as amended by the Royal Order of 27 May 1898. The amendments relate more especially to bringing domestic animals to fairs, markets, and other places to place them on sale, and orders that such gatherings of animals be organized, installed, and kept going in such wise as to avoid the danger of spreading contagious diseases.

■ An Order of the Regent dated 10 May 1950, (*M. B.*, N° 147, 27 May 1950, p. 4285) prescribes sanitary police measures relating to tularemia, classified among the contagious diseases contemplated by Art. 319 of the Penal Code, and, at the request of the Government veterinary inspector the Burgomaster may order the slaughter of domestic animals affected or suspected of being infected by this disease.

■ A Decision of 24 April 1950, of the Ministry of Agriculture (*M. B.*, N° 117, 27 April 1950, p. 3293), makes an exception to the Ministerial Order of 19 December 1949, forbidding the importation of swine coming from the Netherlands or in transit through that country. As a result of this exception, ruminants belonging to Dutch owners may enter Belgium to graze on Belgian territory. This permit is however subject to the presentation of a veterinary certificate testifying that the animals have been vaccinated against foot-and-mouth disease not less than 15 days and not more than 3 months before the date of their arrival at the frontier office.

SPAIN

■ An Order of 1 March 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 80, March 21, 1950, p. 1203), contains measures for facilitating the traffic with France of cattle going to graze on the other side of the frontier of the Pyrenees.

Cattle temporarily exported or imported from or to France for the purpose of grazing, need not have

been vaccinated against contagious diseases, provided however that the district of origin and that of destination have not been proclaimed infested areas or that vaccination has not been made obligatory in those districts owing to the imminent danger of cattle diseases. With this in view, the enjoyment of the facility is made subject to the presentation of a departmental veterinary certificate annexed to the application for permission of temporary importation or exportation.

■ By Order of 17 May 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 141, 21 May 1950, p. 2226) sheep flocks moving to and from mountain pastures are not required to be vaccinated against pox disease if the province of origin is exempt from infection.

(r) Bee diseases

SPAIN

■ An Order of 1 March 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 80, 21 March 1950, p. 1203) adds mite disease of bees to the list of diseases for which sanitary measures are contemplated by the regulations against epizootic diseases of 26 September 1933.

(s) Sericulture

SPAIN

■ An Order of 12 May 1950, of the Ministry of Agriculture (*B. O. del E.*, N° 146, 26 May, 1950, p. 2295), fixes the annual minimum production of fresh cocoons for each of the five silk-breeding areas ('Zonas de Fomento Sericícolas') with a view to the application of the Order of 6 November 1946, containing measures for the encouragement of sericulture.

III. - ECONOMICS AND MARKETS

(a) Customs duties

BELGIUM

■ A Ministerial Order of 5 April 1950 (*M. B.*, N° 97, 7 April 1950, p. 2677), amends the rates of the special import duties levied on new milk, cream and butter.

■ An Order of the Regent dated 26 May 1950 (*M. B.*, N° 148, 28 May 1950, p. 4311), amends the rates of the import duties annexed to the Belgian-Luxembourg-Netherlands Customs Convention. Among the the products considered by the new tariff are milk,

plants, parts of plants, seeds and fruits used in the perfumery trade, meat extracts seasoned with vegetable substances, cacao beans and cacao waste, spirits of all kinds, etc.

SPAIN

■ A Decree of 9 January 1950 issued by the Ministry of Industry and Commerce (*B. O. del E.*, N° 35, 4 February 1950, p. 494), includes cotton grown in the Canary Islands under letter *a* of N° 3, of the seventh provision of the Customs Tariff now in force, so that it will now enter the Peninsula and the Balearic Isles duty free. The cultivation of cotton is now encouraged by the Institute for increasing the production of textile fibres.

FRANCE

■ An Order of 12 April 1950 (*J. O.*, N° 88, 13 April 1950, p. 3979), amends the customs import duties on oranges, tangerines and satsumas.

■ The Order of 3 May 1950 (*J. O.*, N° 106, 4 May, 1950, p. 4418) reintroduces import duties on dairy products (Tariff N°s 28,29, 30,31, and 32).

■ An Order of 4 May 1950 (*J. O.*, N° 107, 5 May, 1950, p. 4957) reduces provisionally the import duties on early potatoes (Tariff N° Ex. 67 E).

■ An Order of 26 April 1950 (*J. O.*, N° 100, 27 April 1950, p. 4427) reintroduces until a later date to be fixed by an Order, the import duty on refined sugars or unrefined sugar in briquets, inclusive of sugar candy (Tariff N° 167 B).

■ An Order of 5 May 1950 (*J. O.*, N° 112, 11 May 1950, p. 5154) reintroduces the import duty on fresh or dried bananas, inclusive of dried green bananas (*cossettes*) (Tariff N° 71 B).

LUXEMBOURG

■ An Order of the Grand Duchy of 5 April 1950 (*M. L.*, N° 26, 8 April 1950, p. 618) provides special duties to be levied on new milk, cream, fresh and salted butter, even if fused. The duties are collected when the import permits are delivered and a drawback is granted in case of re-exportation.

■ A Ministerial Order of 5 April 1950, (*ibidem*, p. 620), fixes the rate of the special duties contemplated by the Grand Ducal Order above quoted.

(b) Wine and spirits

SPAIN

■ An Order of 23 March 1950, issued by the Presidential Bureau of the Government, (*B. O. del E.*, N° 83, 24 March 1950, p. 1250), contains measures

amending some provisions of the Order dated 25 August 1949 regulating wine and spirits for the 1949-1950 season, and the exports of wine.

■ The amendments deal more especially with the trading system and the prices of vinic alcohol, the control is limited to only 20% of the output of neutral vinic alcohols, the remaining 80% is left quite free, both as regards the use to which it is put and the price charged. A drawback system is established in favor of exported wines, brandies, and liqueurs at the rate of 4.70 pesetas per litre of alcohol. Other facilities are provided to encourage the export of beverage wines and ordinary wines containing less than 13% alcohol.

(c) Technical inspection and conditioning of food preserves

MOROCCO

■ An Order of 11 January 1950 of the Director of Agriculture, Commerce, and Forests (*B. O.*, N° 1942, 13 January 1950, p. 46), contains detailed provisions relating to the technical inspection of the manufacture, conditioning, and export of preserves of vegetables, tomatoes, vegetables packed with meat, and tomato extracts. The provisions refer to preserved green peas, dried peas, kidney beans, French beans, artichokes, celery, lettuce hearts, cauliflowers, spinach, stick asparagus, asparagus tips, vegetable mixtures, cultivated mushrooms, flap mushrooms, sauerkraut in cans, tomato sauces, pastes, etc.

(d) Trade, price control and price fixing

(i) Sugarcane

SPAIN

■ An Order of 16 March 1950 of the Ministry of Agriculture (*B. O. del E.*, N° 84, 25 March 1950, p. 1270) fixes at 336 pesetas per metric ton the price of sugarcane delivered at the factory, for the 1950-51 crop season.

(ii) Cereals

BELGIUM

■ An Order of 17 March 1950 (*M. B.*, N° 90, 31 March 1950, p. 2447) places imported wheat under the normal price system.

FRANCE

■ Decree N° 50-489 of 4 May 1950 (*J. O.*, N° 107, 5 May 1950, p. 4961) fixes the prices of cereals for the 1949-1950 season. As from 1 May 1950, the normal price at which the pools will resell French

cereals is fixed per quintal at 2,656.90 fr. for wheat, 2,335.45 fr. for rye, 1,983.45 fr. for grey, black or red oats; 1,952.80 fr. for yellow variegated or other coloured oats; 2,100.80 fr. for barley; 2,044.65 fr. for winter barley; 1,866.15 fr. for silver grey buckwheat; 1,764.05 fr. for Tartarian buckwheat; 2,070.15 fr. for white or yellow maize; 2,100.80 fr. for yellow or reddish maize; 8,673.80 fr. for paddy. These prices are net of the purchase tax, which is charged to the pool organizations.

The pool, and the other holders of cereals other than the growers and the pool organizations, are required to pay compensative dues on the quantities held by them on the evening of April 30, 1950, at a rate per quintal fixed by the Decree.

(iii) *silk cocoons*

SPAIN

■ An Order of 30 March 1950, of the Ministry of Agriculture (*B. O., del E., N° 97, 7 April 1950, p. 1499*) fixes at 20 pesetas per kg. the price of fresh cocoons of the 1950 season.

(iv) *feculas and tapioca*

BELGIUM

■ An Order of the Regent of 15 March 1950 (*M. B., N° 104, 14 April 1950, p. 2872*), lays down regulations for the trade in feculas and tapioca. For the purposes of the Order, feculas are held to be products consisting of microscopic grains of starch extracted from plant cells; and tapioca is the product obtained by heating moistened fecula. Fecula products and tapioca may only be sold, placed on sale, held, transported with a view to sale or delivery, when placed in containers or wrappings marked with the correct denomination: 'fecula' or 'tapioca', immediately followed by the name of the plant or plants from which the product is obtained. These particulars may, however, be replaced by the word 'fecula' to designate the fecula obtained from potato tubers; 'tapioca' to designate tapioca obtained exclusively by processing cassava fecula; 'arrowroot' to designate the fecula extracted from the rhizomes of *Maranta arundinacea, L.*; 'maizena' to designate the fecula extracted from maize kernels; 'sago', to designate the fecula extracted from the pith of *Metroxylon rumphii* Mart. or *Metroxylon laeve* Mart.

(v) *cotton*

SPAIN

■ An Order of 31 January 1950, of the Ministry of Agriculture (*B. O., del E., N° 34, 3 February 1950, p. 490*) fixes the price of raw cotton for the 1950 season as follows: American type cotton 4.85 pe-

setas per kg. for the 1st grade, 4.45 and 3.85 pesetas respectively for the 2nd and 3rd grades. Cotton of the Egyptian type 7.70 pesetas for the 1st grade, 6.70 and 6.20 pesetas respectively for the 2nd and 3rd grades. Bonuses are allowed in addition to the above prices, ranging from 1 peseta per kg. for raw cotton of the American type up to 1.15 pesetas for cotton of the Egyptian type. Moreover, the Institute for Promoting the Production of Textile Fibres ('Instituto de Fomento de la Producción de Fibras textiles') is authorized to grant further bonuses at the rate of 3 pesetas per kg. for raw cotton of the American type grown on non-irrigated fields, 3.30 pesetas per kg. for the same type of cotton grown on irrigated land, and 3.30 pesetas per kg. for cotton of the Egyptian type.

(vi) *edible oils*

MOROCCO

■ An Order of 28 April 1950 of the General Secretary of the Protectorate (*B. O., N° 1958, 5 May, 1950, p. 498*) fixes, as from 1 May 1950, the maximum retail price of refined edible oils at 210 fr. per litre net, inclusive of turnover tax.

(vii) *wools*

SPAIN

■ An Order of 12 May 1950, issued by the Ministries of Agriculture, Industry, Commerce, and Agriculture (*B. O. del E., N° 141, 21 May 1950, p. 2225*) grants full freedom for the pricing of wools and woollen materials and for their circulation and trade as from the 1950-1951 wool season.

(viii) *milk and dairy products*

SPAIN

■ A Circular of the Commissariat for Supplies and Transports, dated 2 February 1950 (*B. O. del E., N° 48, 17 February 1950, p. 745*) regulates the application of the Order of 17 August 1949, of the Ministries of Agriculture, Industry and Commerce, on milk and dairy products. The prices of fresh milk, sterilized and pasteurized milk, cream, butter and cheese, paid to the producers and charged to the public, may be freely fixed. Other measures regulate the qualities of milk that may be placed on sale; the suppression of adulteration, the dairy man's pass-book, the making of butter and cheese and the preparation of cream, the interprovincial transportation of milk, the inspection and marketing of condensed milk, dried milk, and their price, the equalization fund for milk assigned for condensing, etc.

FRANCE

■ A Decree of 12 April 1950 (*J. O.*, N° 88, 13 April 1950, p. 3980) amends Decree N° 49-1345 of 10 September 1949, by suppressing Art. 3, relating to fixing the prices of milk for the 1949-1950 season.

■ An Order of 12 April 1950 (*ibidem*, p. 3980) empowers the Prefects to issue Orders fixing, as from 16 April 1950, the fixed maximum wholesale and retail prices of raw and pasteurized whole milk. As from that date the sales prices of cream, cheese, and butter may be freely arranged between purchaser and seller and between makers of dairy-butter on the one hand and producers, collectors and blenders of butter made on the farm on the other hand, and their purchasers.

(ix) pulses

SPAIN

■ A Circular N° 743 of 17 May 1950, issued by the General Commissariat of Supplies and Transports (*B. O. del E.*, N° 150, 30 May 1950, p. 2358) contains measures regulating the trade and circulation of pulses used for human food, to ensure the application of the Decree of the Ministry of Agriculture dated 28 April 1950.

The Circular provides for the collection of data on the production, prices, stocks, and use of rolling-stock for the carriage and marketing of the production, the formation of consumers' stocks, planting, etc.

(x) potatoes

SPAIN

■ An Order of 24 March 1950, of the Ministries of Industry, Commerce and Agriculture (*B. O. del E.*, N° 91, 1 April 1950, p. 1397) establishes liberty in the price fixing, trade, and consumption of potatoes throughout the national territory.

(xi) rice

SWITZERLAND

■ Under the regulations of 31 March 1950 of the Federal Service for Price Control, (*R. L. F.*, N° 10, 6 April 1950, p. 318), the prices of all current types of rice may not exceed a maximum rate of 105.50 Swiss fr. per 100 kg. net weight (maximum price for sale to the retailer, tax on turnover not included); the retail price may not exceed 1.35 Swiss fr. per kg., inclusive of any tax on turnover).

(xii) vanilla-flavoured sugar

FRANCE

■ An Order of 7 April 1950 (*J. O.*, N° 89, 14 April 1950, p. 3996) repeals the Orders of 23 January 1946 and 27 December 1948, on the making, offer, marketing and sale of vanilla-flavoured and vanillinated sugar.

■ A Circular of 7 April 1950 (*ibidem*, p. 4000) contains the measures to be observed since the repeal of the Orders dated 23 January 1946 and 27 September 1948, on the sale of vanilla-flavoured and vanillinated sugar, pending a regulation issued by the public administration fixing the measures applicable to the said products. The Circular defines the descriptions of vanilla, vanilla-flavoured powders, sugars and essences, vanillinated sugars, etc., and the rules to be observed in their preparation and labelling.

(xiii) ammonium sulphate

SPAIN

■ An Order of 24 March 1950, of the Ministry of Industry and Commerce (*B. O. del E.*, N° 90, 31 March 1950, p. 1355) fixes one uniform sales price for sulphate of ammonia, whether manufactured in Spain or abroad. It is 2,100 pesetas per metric ton, packed and loaded on a vehicle at the place of production or at the importer's warehouse. Additional charges are fixed for cost of carriage from the factory or from the importer's warehouse to the consuming centre and for trade margins at the rate of 40 and 60 pesetas per ton in favor respectively of whole-salers and retailers.

IV. - STATISTICS

BELGIUM

■ An Order of 3 April 1950 (*M. B.* N° 118, 28 April 1950, p. 3315) requires the preparation of monthly statistical returns on the production of vegetable and animal oil industries, and on the movement of stocks of the same. These returns are to be drawn up on the basis of the information collected through the distribution of forms of which a specimen is appended to the Order. These forms, duly filled in by the heads of the concerns, must be returned to the National Institute of Statistics not later than the eighth of the month following that to which the information refers.

■ An Order of the Regent of 6 May 1950 (*M. B.*, N° 190, 10 May 1950, p. 3716), provides that on 15 May 1950, a survey will be made of the areas under farms and crops, on the use to which the lands are put, their parcelling, the principal domestic animals, the areas of wooded estates, ponds, and uncultivated lands. This general census of agriculture, which will be incorporated in the framework of the world agricultural census of 1950, requires returns to be made by all persons and corporate bodies who on 15 May 1950, are (1) farming or occupying in any capacity in Belgium or in the frontier zones as defined by the customs laws, if they reside in Belgium, one or more holdings planted to the crops listed in appendix 1 to the Order, and occupying a total area of not less than 100 sq. metres;

(2) holding one or more of the animals listed in appendix II; (3) owning in Belgium woods, ponds, covering more than 200 sq. m. or uncultivated lands not included in one of the farm holdings listed under appendix IV, in so far as the said properties are not subject to forest legislation. Persons who cultivate for commercial purposes market-gardens or orchards, grow flowers, cultivate nurseries, or grow mushrooms are required to fill in a special form in conformity with the instructions given in appendix III.

LUXEMBOURG

■ A Ministerial Order of 13 April 1950, (*M. L.*, No. 28, 20 April 1950, p. 663) has been issued to comply with the recommendation made by the Food and Agriculture Organization of the United Nations relating to the taking of a World Census of Agriculture in 1950, for the purpose of obtaining accurate and comparable information on world agricultural production. The Order provides that a general census of agriculture will be taken in 1950 in the Grand Duchy of Luxembourg. The census will be taken in two stages, the first on 15 May 1950, the second in December 1950. On 15 May returns will be made of the areas, their utilization, division, fruit trees and livestock. In December 1950 returns will be made dealing with the agricultural population, employment in agricultural work, farm buildings and equipment. All persons and legal entities, companies, administrations, ecclesiastical properties, or bodies of any description that farm or occupy in the Grand Duchy of Luxembourg or abroad a total area of 2,000 sq. m., or more, of which all or part is used as arable land, orchards, meadows, grasslands, vineyards or forests, are required to make returns. Returns must also be made by all persons having a total area of less than 2,000 sq. m. for the cultivation of horticultural products, truck crops or fruits intended for sale, or who grow wheat or cultivate vineyards, or hold livestock consisting of horses, pigs, cattle, sheep, poultry, or bee-hives. The returns must be sent to the administration of the Commune in which the person making the return resides.

PORTUGAL

■ A Decree N° 37:763 of 24 February 1950, (*D. d. G.*, 1st Series, N° 38, 24 February 1950, p. 126), contains provisions for the ninth general census of the population of the mainland and adjacent islands, under the Decree-Law N° 37:608 dated 14 November 1949. The general census of the population will be taken at 1 a. m. on 15 December 1950. It will be preceded by a general survey of the national territory, carried out through an inventory of real estate and of families to be made in all the Communes in July 1950.

SWITZERLAND

■ An Ordinance of 16 May 1950 (*R. L. F.*, N° 15, 19 May 1950, p. 412) contains measures for taking a Federal Census of crops in 1950. The census will be made from 17 to 24 June 1950, in all the Communes of Switzerland, showing the situation existing on 21 June. The Census covers arable lands, forage crops, vegetables and horticultural crops, vineyards and berry crops. A census will be taken on the same returns of some of the more important power implements and special agricultural machines employed. The Federal Bureau of Statistics is entrusted with taking the census; it will draw up the forms to be used, and give the necessary instructions, and will place the necessary printed matter at the disposal of the cantonal and communal authorities. The Federal Bureau of Statistics will, moreover, check the returns obtained and will abstract them and publish the results.

V. - FORESTRY

SPAIN

■ An Order of 20 March 1950, issued by the Presidential Bureau of the Government (*B. O. del E.*, N° 82, 23 March 1950, p. 1235), lays down rules to be used in drawing up a national plan for resins. The plan will be drawn up by the 'Junta Interministerial de Resinas' and will consist of two parts. The first, entitled the General Plan, fixes the purposes to be secured by successive stages that will have to be gone through before attaining the complete and final organization. With a view to the establishment of the general plan, the national territory available for the production of resins will be divided into districts and areas which will provide the basis for the final distribution of the plan and in each of the districts or areas a factory for processing resins will be opened. The second or special plan, has been drawn up for the period of the first stage, which will last for more than ten years. During the period covered by the special plan the endeavour will be to centralize, transform and enlarge to the right extent the existing factories, closing those lacking the necessary industrial equipment or unsuitably located. Other provisions fix the rules for grouping the provinces in two classes, according to the importance of their resin output, and the maximum and minimum number of pine-trees suited to resin tapping, the formation of areas and districts, and the working of the factories, which will have to satisfy certain requirements laid down in the Order.

MOROCCO

■ An Order of 19 December 1949, (*B. O.*, N° 1943, 20 January 1950, p. 80) fixes at 4000 fr. for the year 1950 the maximum money grant allowed under Art. 9 of the Vizierial Order of 14 November 1949, per hectare of land wooded or reafforested, and lays

down the rules for the management of the Morocco Forestry Fund. The maximum amount of the total grant that may be made in any one year to an individual landowner is fixed at 40,000 fr.

VI. - FISHERIES

ALGERIA

■ An Order of 13 April 1950 (*J.O.A.*, N° 31, 18 April 1950, p. 514), fixes the area over which the use of drag-nets of the first series called 'chaluts', is permanently forbidden. These areas are generally less than 50 metres deep, and the prohibition applies more especially to certain fixed alignments, whatever be their depth. Moreover drag-nets must be lowered or dragged at a distance of not less than 300 metres from other fishing-nets.

SPAIN

■ An Order of the Minister of Industry and Commerce of 23 March 1950 (*B. O. del E.*, N° 96, 6 April 1950, p. 1418), postpones the date on which the provisions of the Ministerial Order of 10 March 1949, fixing the minimum size of the meshes of drag-nets, will come into force.

■ An Order of 28 February 1950 of the Ministry of Finance (*B. O. del E.*, N° 62, March 3, 1950, p. 1009) contains regulations supplementary to the Act of 22 December 1949, on loans to fishermen. A sum of 100 million pesetas is put at the disposal of the Central Bank for maritime and fisheries credit by private banking institutions and savings banks for advances to fishermen.

FRANCE

■ An Order of 29 March 1950 (*J. O.*, N° 83, 6 April 1950, p. 3735), empowers the Inter-professional Committee on oyster-beds and sea-food cultivation to collect a duty at the flat rate of 0.70 fr. on all parcels of shellfish of whatever size and value to be sold for consumption, with the exception of those sent by fishermen themselves. The duty is collected when delivery is made of the sanitary label which, under the regulations of the Decree of 20 August 1939 on the sanitary inspection of shellfish, must accompany each parcel.

■ An Order of 22 April 1950, (*J. O.* N° 104, 1 and 2 May 1950, p. 4784) empowers the Administration of National Estates to levy a duty on sea-fishery establishments for the benefit of the Inter-professional Committee on oyster-beds and sea-food cultivation. This duty is collected once a year on sea-fishing establishments situated on areas belonging to the National Domain, or on private property,

at the rate of 3 fr. per 100 sq. metres and per decametre of crawls, the minimum duty being 100 fr. per concessionaire.

■ An Order of 29 March 1950 (*J. O.*, N° 78, 31 March 1950, p. 3479), fixes the price system for imported preserved fish. The sales price of imported preserved fish (N° 164 of the customs' tariff) may be fixed by free bargaining between buyer and seller at the time of importation and at all stages of marketing.

PORTUGAL

■ An Order No. 13 : 141 of 1 May 1950 (*D. d. G.*, 1st Series, 1 May 1950, p. 237), allows, as an experimental measure, and until 31 December 1951, the use along the coasts of vessels fishing with drag-nets, more especially for catching shellfish. This is an exception to paragraph 1 of Art. 20 of the Decree N° 36 : 615 dated 24 November 1947. A special permit is delivered for this purpose, subject to certain conditions of inspection and control.

VII. - RURAL WELFARE

(a) Maternity insurance

ALGERIA

■ An Order of 8 May 1950 (*J.P.A.*, N° 37, 9 May 1950, p. 659) fixes the formalities for giving effect to maternity insurance in the case of the agricultural population, as regards the persons entitled to the benefits, the benefits paid, and the formalities to be observed to obtain them.

(b) Agricultural co-operative societies

SPAIN

■ An Order of 9 February 1950 of the Ministry of Agriculture (*B. O. del E.*, N° 47, 16 February 1950, p. 729), enacts measures for encouraging co-operation in agriculture to the advantage of national economy. The Minister of Agriculture is authorized to grant agricultural cooperative societies ('Cooperativas del Campo') and their Unions the title of Collaborators with the Ministry of Agriculture ('Entidad colaboradora del Ministerio de Agricultura'). These co-operative societies will be liberally assisted by the Ministry in securing the social purposes they have in view and in protecting the interests of their members, and in their turn they are expected to facilitate the carrying into effect of the agricultural policies pursued by the Ministry of Agriculture.

■ A prescription of 30 April, 1950, taken by the same Ministry, (*B. O. del E.*, N° 129, 9 May, 1950 p. 2036), contains measures for giving effect to the Order dated 9 February 1950, above mentioned.

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